REPORT ON THE PHASE 1, 1994 EXPLORATION PROGRAM CARRIED OUT ON THE TODD CREEK PROPERTY, SKEENA MINING DIVISION, NORTHWESTERN BRITISH COLUMBIA

LATITUDE 56° 17' NORTH

LONGITUDE 129° 48' WEST

NTS 104 A/5, 104 A/4

FOR ORACLE MINERALS INC.

BY

GEOFINE EXPLORATION CONSULTANTS LTD.

NOVEMBER, 1994

PART 1 OF 3

Copy 5

Photo 1: Todd Creek Property - jarosite/alunite alteration, Orange Mtn. Target Area

SUMMARY:

The approximately $200,000 Phase 1, geological, geophysical and geochemical program was carried out intermittently on the Todd Creek property from August 6 to October 10, 1994 as weather conditions allowed. The Todd Creek property is located in the Stewart Gold Camp in Northwestern British Columbia, about 35 km north-northeast of the town of Stewart. The 23 mining claims are concentrated in the Todd Creek valley about 10 km north of the Stewart Highway. The claims comprise 430 claim units that cover 107.5 square kilometres.

Much of the Todd Creek property is underlain by volcanic and pyroclastic rocks of the Jurassic Age Hazelton Group that elsewhere in the Stewart camp hosts the Red Mountain, Silbak-Premier and Eskay Creek gold deposits. The apparent attributes of the Todd geological environment, like Red Mountain, are epitomized in a large colour anomaly (Orange Mountain) associated with iron oxide and clay alteration. Such gossans elsewhere in the Camp have proven to be particularly prospective when associated with strong alteration (including silica, pyrite, jarosite/alunite, chlorite, sericite, epidote, hematite, etc.) and with polymetallic signatures often including arsenic, zinc, lead, cadmium, boron, manganese, etc., with or without gold, copper, barium etc. Structurally controlled gold and/or polymetallic mineralization is often found within such haloes. Polymetallic geochemical signatures with or without anomalous gold can evidence blind, auriferous deposits and careful evaluation of such signatures is required since gold mineralization often has a plunging ore shoot morphology that constitutes a difficult drill target.

The auriferous potential of the Todd Creek property is somewhat evidenced by the historical work of Noranda on a number of the at least 12 gold and base metal showings located in the vicinity of Orange Mountain. Noranda diamond drill intersections on a number of the gold targets returned significant results that include:

NORTH ZONE:

	3.47 g Au/t	0.75% Cu	over	31.85	m
incl	14.47 g Au/t	2.06% Cu	over	5.95	m
	2.83 g Au/t	0.58% Cu	over	1.95	m
	3.95 g Au/t	0.22% Cu	over	2.00	m
	3.43 g Au/t	0.73% Cu	over	1.70	m
	6.21 g Au/t	0.60% Cu	over	1.75	m

FALL CREEK ZONE:

6.72 g Au/t over 1.45 m
12.10 g Au/t over 1.25 m
2.73 g Au/t and 0.59% Cu over 13.00 m
incl 5.41 g Au/t and 0.50% Cu over 5.25 m
4.34 g Au/t over 2.00 m
3.94 g Au/t over 7.90 m
incl 4.71 g Au/t over 4.75 m

The encouraging intersections on the Fall Creek Grid were never followed-up, although the 1990 drill evaluation of a number of IP anomalies in the Fall Creek Target Area returned some wide intersections of anomalous gold including a 15.35 m core length grading 1.35 g Au/t. The 1990 drill results thus provide additional follow-up targets beyond those referenced above. On the South Zone, still held by Noranda, a deposit totalling 207,000 tonnes grading 5.48 g Au/t was outlined.

The $200,000, Phase 1 exploration program was carried out by Geofine under contract to Oracle Resources Inc. The work included the compilation of the available historical data; the regional aerial reconnaissance of alteration zones and the staking of an additional 11 claims; an Geonex Aerodat helicopterborne radiometric, conventional EM and gradiometer survey; the reconnaissance geological and geochemical evaluation of a number of reconnaissance targets; the restoration of Grid A on the North Zone and an initial evaluation of the historical mineralization; the initial evaluation of the Noranda Grid B mineralization on the North Zone; and, the establishing of a new 11 km grid on the North (C Grid), Fall Creek and Ice Creek Zones and the carrying out of geology and geochemical surveys as weather conditions allowed.

The Geonex Aerodat survey was successful in identifying apparent zones of potassic alteration which, in most areas, correspond to the gossan zones observed in the field. The gradiometer survey was useful in outlining structure and apparent geological contacts. Five general target areas are interpreted from the survey data and numerous individual targets are delineated via the potassium channel anomalies, magnetic trends, apparent structural junctions and weak EM anomalies. Based on the positive results of the survey, 10 new claims were staked to encompass the extension of existing targets and the location of new ones.

A total of 665 samples was collected during the Phase 1 program that comprised 375 rock and talus, 121 stream sediment, 138 soil, and 31 check samples. Based on Geofine's discovery experience in the Stewart Camp that includes the Red Mountain deposit, reconnaissance geological and geochemical surveys on Orange Mountain were successful in delineating geochemical signatures suggestive of the proximity of gold mineralization. For example, the majority of arsenic, lead and zinc values for the 65 rock

samples and for the 25 stream sediment samples are considered to be anomalous. Barium is rather ubiquitous in the Amarillo Zone, suggestive of a higher level in the hydrothermal system. The follow-up of specific polymetallic signatures that include anomalous gold is recommended.

The follow-up of the potassium channel anomaly on the American Creek Zone in the Virginia Creek Target Area resulted in the discovery of anomalous gold values ranging up to 262 ppb in float samples associated with silicified and finely pyritized mafic volcanic rocks. Follow-up of the apparently new target is recommended in conjunction with follow-up activities on the large radiometric anomaly.

Noranda's Mid Zone Target Area contains prospective alteration that may represent the southern extension of the Fall Creek and Ice Creek Zones. Phase 1 surveys in the Yellow Bowl Zone discovered apparently new mineralization with a strong arsenic-gold-copper correlation. Anomalous gold, arsenic and copper values have been obtained over fairly wide widths in chip samples: 512 ppb, 1150 ppm and 1510 ppm, respectively, over 4 m; and, 209 ppb, 500 ppm and 3410 ppm, respectively, over 5 m. Gold and copper values returned in chip samples ranged up to 1.67 g Au/t and 9.8% Cu over 1 m. Most of the stream sediment samples have anomalous gold and copper values, suggesting a large target area.

Initial work on the new Grid C on the North Zone located anomalous gold values ranging up to 1310 ppb in float rocks and 648 ppb in in-situ samples of altered pyroclastic rocks near the Base Line. On the east side of the Base Line an interesting soil gold anomaly, as partially outlined by the 50 ppb contour, transcends the A Zone, suggesting additional targets.

Initial sampling of the historical mineralization on the A Zone returned positive gold and copper values. Forty-eight rock samples have average gold, arsenic, copper, lead and zinc contents of 1683 ppb, 537 ppm, 3125 ppm, 130 ppm and 466 ppm, respectively. Twenty-one percent of the rock samples have gold contents over 1150 ppb. Compilation of the Noranda historical data suggests that the targets remain open and that additional drilling is warranted.

Initial sampling of historical mineralization on the B Zone of the North Zone also returned encouraging results. Twenty-one rock samples have average gold, arsenic, copper, lead and zinc values of 1778 ppb, 630 ppm, 12648 ppm, 49 ppm and 123 ppm, respectively. Individual composite samples returned up to 2207 ppb gold/t, 1130 ppm arsenic, and 22800 ppm copper over a width of 6.5 m. A sample of a large angular massive sulfide boulder returned 4490 ppb gold and 6.03% copper. Two samples of altered (silicified, sulfidized, chloritized, sericitized) angular float boulders had gold contents of 4700 and 4800 ppb gold and copper contents of 16300 ppm and 7400 ppm, respectively. One stream sample taken at the north limit of

the Geofine sampling returned 94 ppb gold and 775 ppm copper, indicating further potential to the north. The Grid C and B Zone areas are considered particularly prospective since Noranda did not carry out geophysical surveys or soil sampling to fully evaluate the auriferous environment.

Work carried out on the Fall Creek and Ice Creek Zones was limited by snow conditions of an early winter and by the steep conditions that prohibited the expansion of the Noranda grid. However, the anomalous gold contents (up to 304 ppb) of stream sediment samples collected on the Zones confirm the importance of the target area; and, along with the anomalous gold contents of rock samples (up to 4.0 g Au/t in float samples and 13.2 grams in narrow chip samples) collected along the east edge of the Ice Creek Glacier, provide an area of focus at least 300 m long for detailed follow-up activities.

Historical exploration on the Fall Creek and Ice Creek Zones had located soil and IP anomalies associated with extensive zones silicified and sulfidized agglomerates. Noranda drilling was initially successful as noted by the Fall Creek Zone intersections reported above. However, the intersections were never followed-up since the 10 holes drilled in 1990 focused on the evaluation of IP targets. The 1990 holes did generate additional follow-up targets via the intersection of wide pyritic haloes that contain encouraging geochemical signatures over core lengths of up to 76 m. In the Stewart Camp, such signatures are often indicative of the proximity of significant gold mineralization.

The proposed, 1995 Phase 2 program totals $600,000 and includes the provision for 1800 m of diamond drilling. The drill evaluation is recommended to initially focus on the follow-up (1000 m) of the most prospective drill intersections and geochemical haloes outlined by the historical Noranda work on the Fall Creek and Ice Creek Zones. The drill program would also initially allocate 600 m to existing drill targets and new targets outlined via IP, gradiometer, geological and geochemical surveys that are proposed on an expanded (15 km) Grid C on the North Zone. Systematic drilling, initially utilizing shallow holes to ascertain plunge morphologies, is recommended. Quantitative multi-element analyses are proposed to delineate geochemical signatures that can often indicate proximity to ore shoots.

Detailed follow-up surveys are proposed on the Amarillo Zone of the Orange Mountain Target Area and on the Yellow Bowl Zone of the Mid Zone Target Area. The 1994 reconnaissance activities would be expanded in each of the above areas and would also focus on evaluating the potential of weak EM anomalies, historical geochemical anomalies and the anomalous gold mineralization referenced above that are associated with the potassium channel anomaly in the Virginia Creek Target Area. The reconnaissance evaluation of a number of interesting weak EM anomalies is proposed in the Northeast Target Area. The most prospective of the unexplored regional alteration zones are also recommended for follow-up.

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REPORT ON THE PHASE 1 EXPLORATION PROGRAM

ON THE

TODD CREEK PROPERTY,

STEWART GOLD CAMP, SKEENA MINING DIVISION,

NORTHWESTERN BRITISH COLUMBIA

1. INTRODUCTION:

The following report reviews the results of the Phase 1, 1994 exploration program carried out on the Todd Creek property by Geofine Exploration Consultants Ltd. on behalf Oracle Minerals Inc. The property is located in the Stewart Gold Camp of Northwestern British Columbia (Figure 1) and straddles the Todd Creek Valley, about 35 km northeast of Stewart, British Columbia (Figure 2).

The property is mainly underlain by the Jurassic Age Unuk River Formation that hosts most of the significant mineralization in the Stewart Camp (Figure 1). The exploration target is gold and associated polymetallic mineralization most likely hosted by structurally controlled, sulfidized zones, and volcanogenic massive sulfides. Relevant models include the Marc Zone type mineralization (auriferous pyrite and sphalerite in fractured controlled, often brecciated zones associated with a Jurassic intrusion) located on Lac Mineral's Red Mountain property; and, the Eskay Creek volcanogenic massive sulfide deposit.

2. PROPERTY, OWNERSHIP:

The Todd Creek property consists of the Todd 1-12 claims, the Pat 1-10 claims and the Pat 18 claim (Table 1; Map 1). The property comprises 430 claim units that cover 107.5 square km. The claims are located on British Columbia Mineral Titles Maps 104A04E, 104A04W, 104A05E and 104A05W.

The Todd claims are registered in the name of the staker, David Kennedy, on behalf of the owner, Geofund. Geofund is a private investment group that funds the research, acquisition and marketing of gold targets. Oracle Minerals Inc. holds the property under option from Geofund and can earn a 100% interest by fulfilling

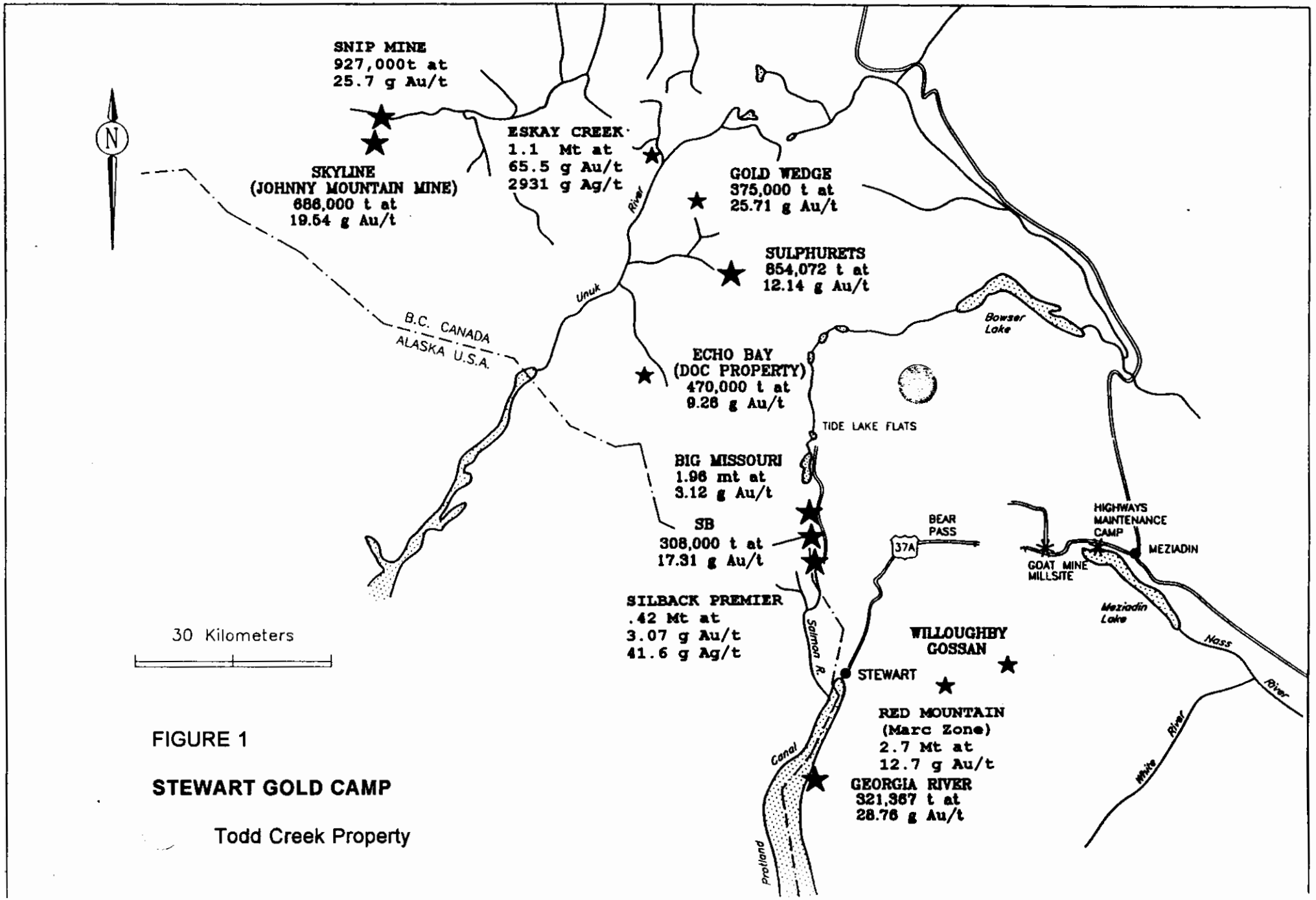

FIGURE 1

STEWART GOLD CAMP

Todd Creek Property

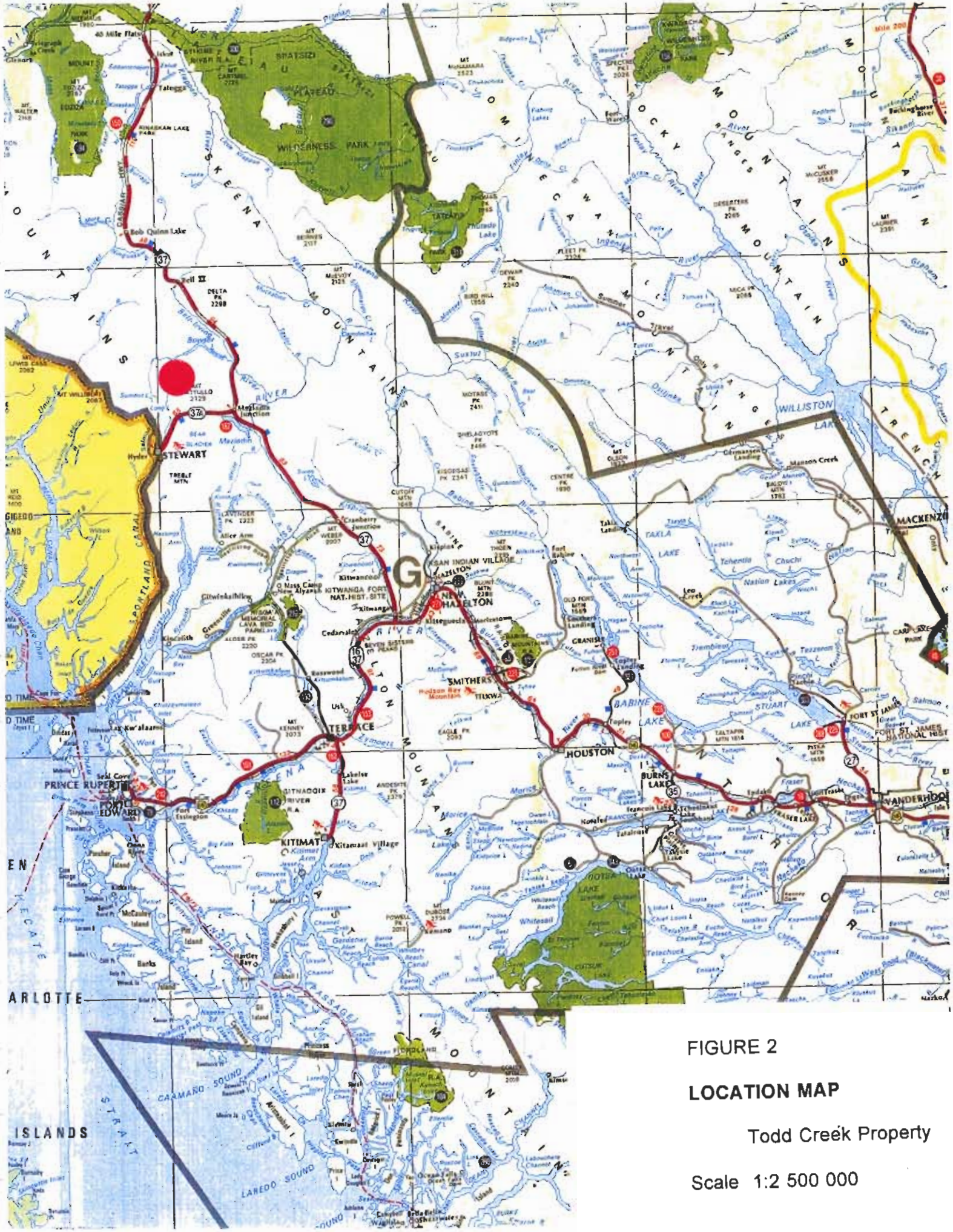

FIGURE 2

LOCATION MAP

Todd Creek Property

Scale 1:2 500 000

TABLE 1

November 8, 1994

TODD CREEK PROPERTY
LIST OF CLAIMS

NAME	TAG NO	RECORD	UNITS	STAKED	EXPIRY
TODD 1	230148	325164	20	April 17/94	April 17/95
TODD 2	230149	325165	20	April 17/94	April 17/95
TODD 3	230150	325166	20	April 17/94	April 17/95
TODD 4	230151	325167	20	April 17/94	April 17/95
TODD 5	230152	325168	20	April 17/94	April 17/95
TODD 6	230153	325169	20	April 17/94	April 17/95
TODD 7	230154	325170	20	April 17/94	April 17/95
TODD 8	230155	325171	20	April 17/94	April 17/95
TODD 9	230156	325172	20	April 17/94	April 17/95
TODD 10	230157	325173	20	April 17/94	April 17/95
TODD 11	230158	325174	15	April 17/94	April 17/95
TODD 12	230159	325175	15	April 17/94	April 17/95
PAT 1	219257	329966	20	Aug 17/94	Aug 17/95
PAT 2	219258	329967	20	Aug 17/94	Aug 17/95
PAT 3	219259	329968	18	Aug 17/94	Aug 17/95
PAT 4	219260	329969	20	Aug 17/94	Aug 17/95
PAT 5	229769	329970	20	Aug 17/94	Aug 17/95
PAT 6	228963	329971	20	Aug 17/94	Aug 17/95
PAT 7	228964	329972	20	Aug 17/94	Aug 17/95
PAT 8	232055	330924	20	Sept 26/94	Sept 26/95
PAT 9	232056	330925	20	Sept 26/94	Sept 26/95
PAT 10	232057	330926	20	Sept 26/94	Sept 26/95
PAT 18	225929	331592	2	Sept 28/94	Sept 28/95

			430		

escalating option payments and work conditions. Upon exercise of the option, Geofund would retain a 2.0% NSR that is subject to a buyout.

3. LOCATION AND ACCESS:

The Todd Creek property is located in the Skeena Mining Division about 35 km northeast of the town of Stewart (Figure 2). The property is located on NTS Map Sheets 104/A4 and 104/A5 and centred at Latitude 56 degrees, 17 minutes north; Longitude 129 degrees, 48 minutes west. The claims straddle the Todd Creek Valley (Photo 2), approximately 10 km north of the Stewart Highway (37A).

In view of the mountainous terrain, helicopter access is required to most parts of the property, either from the Vancouver Island Helicopter base in Stewart or from staging areas on the Stewart Highway.

4. TOPOGRAPHY, DRAINAGE, CLIMATE, WILDLIFE & VEGETATION:

The Todd Creek property is located within the Boundary Ranges of the northern British Columbia Coastal Mountains (Figure 3). The regional topography is characterized by the Todd Creek Valley which has an elevation of between about 500 m to 900 m on the property (Figure 4; Photo 2). East and west of Todd Creek the valley rises steeply to elevations over 2000 m.

The rugged, mountainous topography is characterized by young, deep valleys hosting tributaries that drain into Todd Creek and that facilitate geological and geochemical surveys (Figure 4; Photo 3). The heads of the valleys are generally occupied by glaciers (Photo 4) that are currently receding at a rate of tens of meters per year. Approximately 20% of the property is covered by glaciers and ice fields (Figure 4).

The exploration field season generally extends from July to October. Snowfalls are heavy and can deposit several meters in a 24 hour period. Recorded mean annual snowfalls in the area range from 520 cm at Stewart (sea level) to 1,500 cm at Tide Lake Flats (915 m elevation). Summers are characterized by long hours of daylight and pleasant temperatures. The proximity to the ocean and relatively high mountains make for highly changeable weather. Stewart is located on the Portland Canal (Figure 2) and has the distinction of being Canada's most northerly, ice free seaport.

Wildlife in the area consists of mountain goats, foxes, grizzly bears, black bears, wolves, marmots, martins and ptarmigan. Vegetation in the Stewart valley ranges from coastal rain forest including mature western hemlock, sitka spruce, fir and cottonwood,

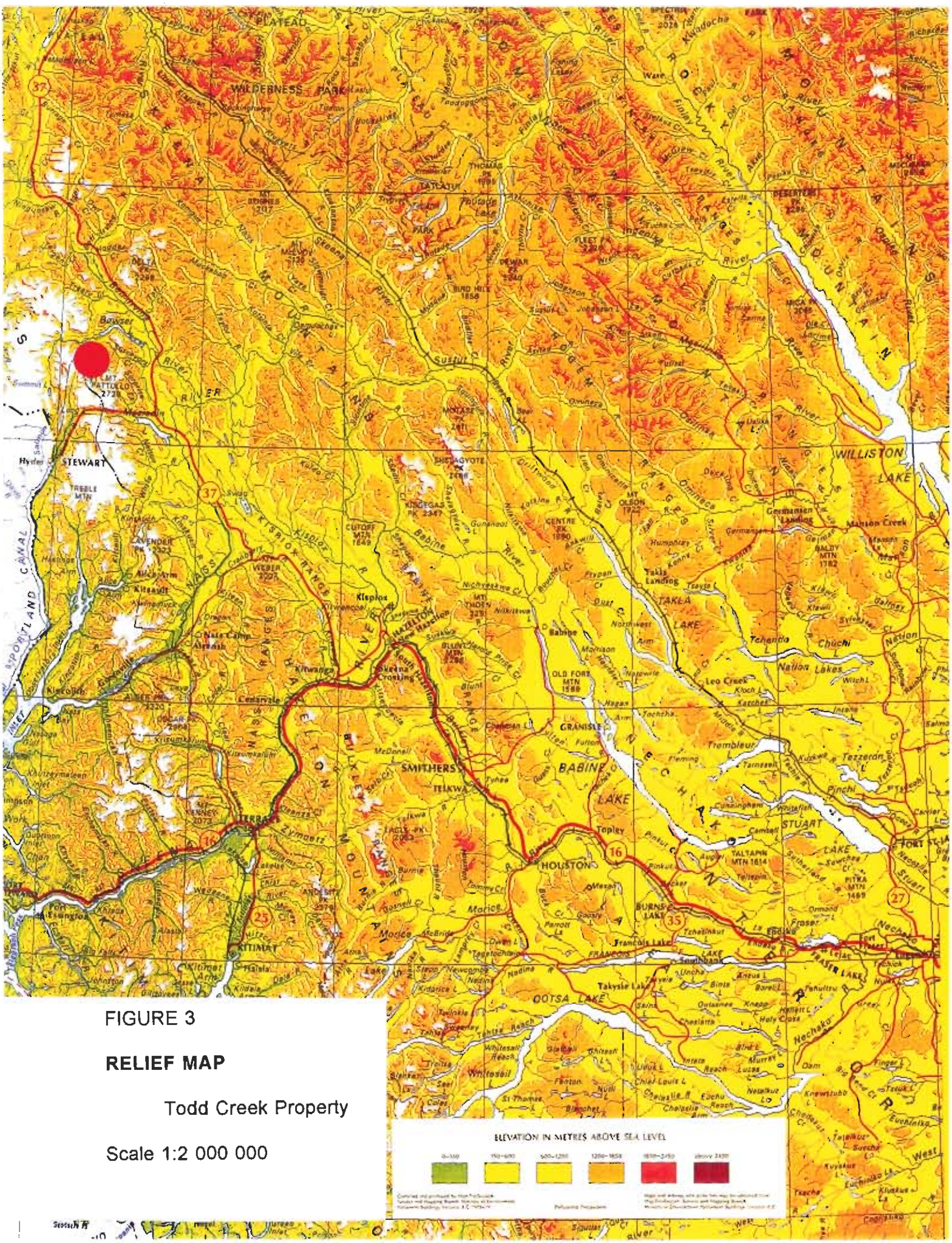

FIGURE 3

RELIEF MAP

Todd Creek Property

Scale 1:2 000 000

FIGURE 4

TOPOGRAPHICAL MAP
TODD CREEK PROPERTY

Property outline

Scale 1:50 000

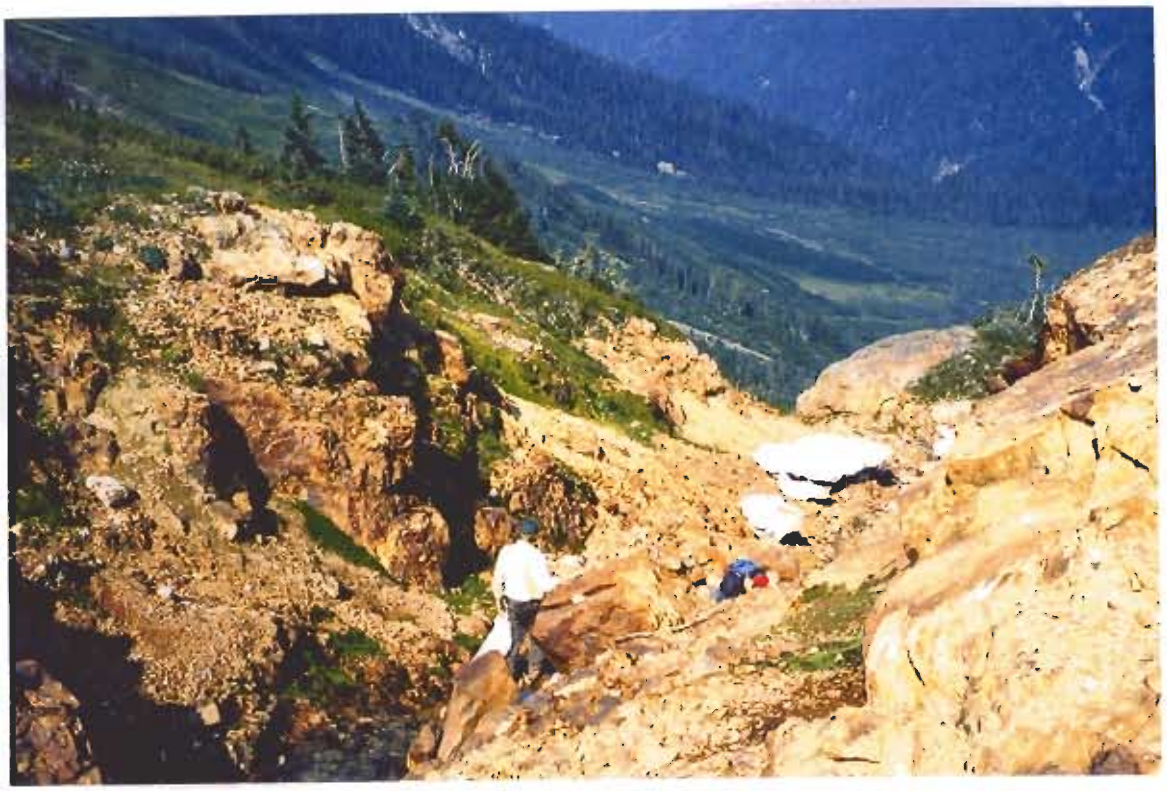

Photo 2: Looking 40 degrees downstream to Todd Creek Valley from Amarillo Zone

Photo 3: Looking northeast to rugged topography east of Todd Creek Valley

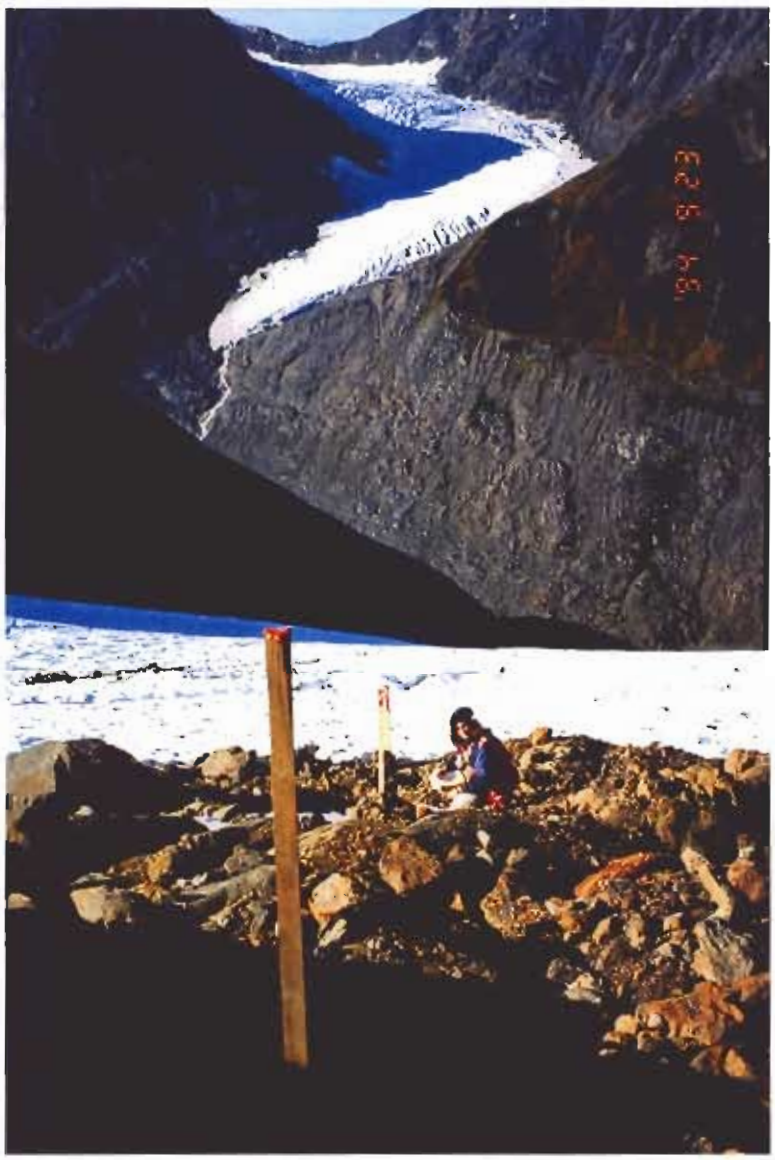

Photo 4: Looking 325 deg from Ice Creek Glacier to glacier at head of tributary to Fall Creek.

and moss as ground cover, to swamps and bogs with abundant tag alders, to subalpine spruce thickets with heather and alpine meadows. Above treeline at approximately 1,200 m where the majority of the property is located, bare rock, talus slopes and glaciers with occasional islands of alpine meadow prevail.

5. EXPLORATION HISTORY:

The central area of the Stewart Camp was prospected at the close of the 19th century mainly for visible gold in quartz veins. The showings are generally located on patented claims, but very little of this work was documented.

The most prominent early discovery was the historic Silbak-Premier gold-silver mine which produced 56,000 kg of gold and 1,281,400 kg of silver in its original lifetime from 1918 to 1976. The mine was re-opened by Westmin in 1988 with reserves quoted at 5.9 million tonnes grading 2.16 g Au/t and 80.23 g Ag/t (Randall, 1988).

The Camp, after more recent discoveries (Figure 1) that include the Snip Mine (reserves of approximately 927,000 tonnes grading 25.7 g Au/t: Gardiner, 1991); Eskay Creek (reserves of about 1.1 M tonnes grading about 65.5 g Au/t and 2931 g Ag/t, with lead and zinc credits: Giancola, 1993); Red Mountain (with reserves of about 1 M ounces: Giancola, 1993; and, potential for 5 million ounces: Northern Miner, Nov. 7, 1994); and, Willoughby Creek (the eastern extension of Red Mountain, with similar gold potential) continues to be regarded as elephant country where low cost discoveries can be made. Ground in the Camp continues to be closely monitored and a 1994 staking rush occurred during which any open ground in favourable geological environments was acquired. Much of the interest is apparently generated by the advances being made with the Red Mountain and Willoughby deposits.

Historical exploration activities on the Todd Creek property evolved around the 12 mineral showings that are located on and in the vicinity of the property and that are referenced in the B. C. government's mineral records ("Minfile"). The showings are briefly described below, are located on Map 1 according to Minfile Number. The actual Minfiles are included for reference:

a. Minfile 001: South Zone:

The South Zone is located on the Noranda Toc 10 claim at the south end of the Todd Creek property which surrounds Toc 10. The South Zone was discovered by Newmont Mining Corporation in 1959 and is currently held by Noranda Exploration Company, Limited and by Goldnev Resources Inc.

MINFILE NUMBER: 104A 001 NATIONAL MINERAL INVENTORY: 104A4 Cu2, Au5

NAME(S): TODD CREEK (SOUTH ZONE), TODD 1-6, TOC 10-11

STATUS: Developed Prospect MINING DIVISION: Skeena
NTS MAP: 104A04W UTM ZONE: 09
LATITUDE: 56 13 15 NORTHING: 6230705
LONGITUDE: 129 46 23 EASTING: 452060
ELEVATION: 0945 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Southwest end of mineralized zone (Assessment Report 18800).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite			
ASSOCIATED:	Quartz	Hematite	Malachite		
ALTERATION:	Malachite	Quartz	Pyrite	Sericite	Chlorite
	Siderite				
ALTERATION TYPE:	Propylitic	Sericitic	Carbonate	Oxidation	
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Stockwork	Breccia	
CLASSIFICATION:	Hydrothermal	Epigenetic		
SHAPE:	Tabular			
MODIFIER:	Fractured			
DIMENSION:		Metres	STRIKE/DIP: 030/75W	TREND/PLUNGE: /

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Feldspar Porphyry
Andesite Flow
Andesite
Andesite Agglomerate
Feldspar Porphyry Flow
Feldspar Porphyry Intrusive

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: SOUTH ZONE

CATEGORY: Measured Geological YEAR: 1988
QUANTITY: 207000 Tonnes

COMMODITY	GRADE
Gold	5.4800 Grams per tonne

COMMENTS: Geological reserves.
REFERENCE: Hemlo Gold Mines Annual Report, 1988; Canadian Mines Handbook 1989-90.

CAPSULE GEOLOGY

The Todd Creek (South Zone) prospect is located at the headwaters of Todd Creek, immediately north of the toe of Todd Glacier, 35 kilometres northeast of Stewart.

The prospect was discovered in 1959 by Newmont Mining Corporation. Newmont conducted a limited trenching and drilling program (5 holes?) on the prospect in 1960 (Minister of Mines Annual Report, 1960). W. Christians staked the Todd 1-6 claims over the occurrence for Kerr-Addison Mines in 1969; no work was reported. A.G. Hodgson conducted a geological examination in 1971. In 1986, Noranda Exploration Company Limited staked the Toc 1-12 claims; the prospect lies on the Toc 10-11 claims. During 1986-88, Noranda performed geological mapping, sampling, trenching and drilling (34 holes, totalling 3186 metres) on the zone. Golden Nevada Resources Inc. entered into a joint venture with Noranda to earn 50 per cent in 1987. In 1989, ownership of the Toc claims was Goldnev Resources (50 per cent), Noranda Inc. (13.9 per cent), Brenda Mines Ltd. (13.9 per cent) and Hemlo Gold Mines Inc. (13.9 per cent).

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation. The mineralized zone occurs in feldspar porphyry (flows?, intrusive?) which is

CAPSULE GEOLOGY

exposed over an area 950 by 500 metres. The porphyry is bound to the west and north by dark green-grey andesite flows and agglomerates and to the south and east by glacial till. The western contact is not exposed. The northern contact is defined by a north- trending, east-dipping fault.

The feldspar porphyry is pervasively altered. Most of the western portion of the porphyry exhibits quartz-pyrite alteration. Further east, near the mineralization, quartz-sericite alteration prevails over locally developed chloritic and iron carbonate alteration.

Mineralization on surface comprises chalcopyrite, pyrite, specular hematite and malachite. The mineralization is hosted in a 5 to 15-metre wide north-northeast trending, steeply west-dipping fracture zone that cuts the eastern portion of the exposed porphyry. The mineralization occurs along the southern 425 metres and the northern 100 metres of the exposed zone (Assessment Report 18800). The fracture zone is transected by several east-striking post-mineralization faults that exhibit both minor dextral and sinistral displacement.

In the fracture zone there are two types of mineralization: a) massive pyrite-chalcopyrite stringers and veins, 1 to 10 centimetres wide and b) a zone of quartz-hematite-chalcopyrite stringers and breccia veins up to 3 metres wide. The sulphide veins generally exhibit higher molybdenum, copper and arsenic values than the breccia veins.

Typically, the mineralized fracture zone comprises 1 or 2 large quartz breccia veins, separated by a stockwork of narrow quartz-hematite veins. The larger breccia veins generally occur along the footwall and hangingwall of the zone.

A channel sample from taken from trench 13 in 1987 assayed up to 4.35 grams per tonne gold across 1.9 metres. The 1987 drilling program resulted in a sample which assayed up to 6.85 grams per tonne gold and 0.23 per cent copper across 6.15 metres (hole NTC-87-9) (Assessment Report 17423).

The 1988 drilling tested the downdip continuity of the zone in holes NTC-87-2 to 9 and the northward continuity of the higher grade mineralization encountered in NTC-87-9. The best intersection assayed 3.61 grams per tonne gold and 0.27 per cent copper across 29.75 metres in hole NTC-88-19; this included 6.91 grams per tonne gold and 0.36 per cent copper across 8.15 metres (Assessment Report 18800).

The Todd Creek (South Zone) is reported to contain geological reserves of 207,000 tonnes grading 5.48 grams per tonne gold (Hemlo Gold Mines Inc., 1988 Annual Report; Canadian Mines Handbook, 1989-90).

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EMPR ASS RPT 3428, 15988, 17423, *18800
EMPR MAP 8
EMPR PF (In 082M141 - Goldnev Resources Inc., Prospectus, July 1989)
EMPR MER 1987-13; 1988-51
EMR MR 223, 1989
GSC OF 2582
GSC MAP 9-1957; 1418A
GCNL #172,#211,#214,#235,1987; #121,#223,1988; #127,1989
CMH 1989-90, p. 226
Hemlo Gold Mines Inc., Annual Report, 1988

DATE CODED: 850724 CODED BY: GSB FIELD CHECK: N
DATE REVISED: 910904 REVISED BY: WC FIELD CHECK: N

In 1986 Noranda had staked the Toc 1-10 claims that cover essentially the same area as the Todd property. In 1987 the Toc 11 an 12 were added, as were the Toc 13-15 claims in 1988. Noranda/ Goldnev still hold the Toc 4, 6, 10 (reduced) and 12 claims.

According to Government Assessment Report 18800, the South Zone is the most significant target area located on the Toc 10 and 11 claims. Drilling in 1987 tested the southern 175 m strike length of the zone and significant results include:

11.93 g Au/t over 1.73 m
4.10 g Au/t over 2.00 m
4.01 g Au/t over 1.50 m
3.25 g Au/t over 3.69 m
3.36 g Au/t over 2.61 m

Drilling in 1988 tested the down dip extension and strike continuity of the zone for an additional 200 m to the north. Intersections ranged from 1-30 m and significant values include:

6.91 g Au/t over 8.15 m
6.86 g Au/t over 2.00 m
6.53 g Au/t over 2.05 m
4.65 g Au/t over 6.15 m
8.83 g Au/t over 11.70 m
6.12 g Au/t over 6.10 m

The zone has been tested by 34 holes comprising 3186 m. The zone is hosted by altered feldspar porphyry exposed over an area 950 by 500 m. Quartz-pyrite is the principal alteration but near the mineralization quartz-sericite is the dominate type. The mineralization consists of chalcopyrite, pyrite, specular hematite and malachite. The mineralization is hosted by a 5 to 15 m wide northeast trending fracture zone that dips west and cuts the porphyry. The area is underlain by Hazelton Group rocks of Upper Triassic to Lower Jurassic Unuk River Formation.

The South Zone is reported to contain drill indicated reserves of 207,000 tonnes grading 5.48 g Au/t (Hemlo Gold Mines Inc., 1988 Annual Report).

b. Minfile 111: Mid Zone on Todd 12:

The Mid Zone was discovered by Noranda in 1986. It comprises an area about 500 by 250 m encompassing several west-southwest to northwest trending quartz-pyrite-chalcopyrite veins. The veins are 0.01 to 6.0 metres wide and 1 to 108 metres long. Grab samples assayed up to 1.68% Cu with negligible Mo, Pb, Zn, Ag, As, Cd, Sb, and Au values. The mineralization is apparently hosted by altered felsic rocks composed of quartz-sericite-pyrite.

c. Minfile 110: Ridge Showing on Todd 12:

The Ridge showing was discovered by Noranda in 1987. The showing consists of several mineralized outcrops that cover an area about 300 by 200 m. Mineralization comprises pyrite, chalcopyrite and malachite. North-northwest trending andesite flows and agglomerates are interbedded with feldspar porphyry (intrusive?) and rhyolite flows and tuffs. Grab samples assayed up to 0.34 g Au/t, 5.2 g Ag/t, and 14.14% Cu. The mineralization appears to be hosted by mafic volcanics that lie immediately west of a large gossan apparently associated with feldspar porphyry. Approximately 200 m north of the showing a sample from outcrop assayed 12.7 g Ag/t, 1.17% Pb and 1.71% Zn.

d. Minfile 109: Knob 1 Showing on Todd 3:

The Knob 1 showing was discovered by Noranda in 1987. The showing comprises several 1-10 cm wide chalcopyrite veins that occur in a large prominent gossan. The gossan includes extensive areas of quartz-sericite-pyrite alteration. A grab sample from one of the veins assayed 0.37% Cu. The mineralization occurs in pervasively altered northwest trending andesite flows and breccias which are intruded by fine grained mafic dykes.

e. Minfile 108: Toc 9 Showing on Todd 4:

The Toc 9 showing was discovered by Noranda in 1986. Mineralization consists of narrow chalcopyrite veins that occur in a 1-2 metre wide discontinuous, north-northwest trending shear zones. The zones are hosted by altered feldspar porphyry composed of quartz, sericite and pyrite. Grab samples assayed up to 32.9 g Au/t and 3.08% Cu.

f. Minfile 107: F 1 Zone or Fall Creek Zone on Todd 3:

The F 1 zone was discovered by Noranda in 1987 as a follow-up of anomalous values returned in a soil survey on the south side of Fall Creek. During 1986 to 1989 Noranda completed geological mapping, silt and soil geochemical surveys and four holes totalling 368 m on the zone. Significant intersections include:

	6.72 g Au/t over 1.45 m
	12.10 g Au/t over 1.25 m
	2.73 g Au/t and 0.59% Cu over 13.00 m
incl.	5.41 g Au/t and 0.50% Cu over 5.25 m
	4.34 g Au/t over 2.00 m
	3.94 g Au/t over 7.90 m
inc.	4.71 g Au/t over 4.75 m

The mineralization is associated with pervasively altered andesites that contain quartz-sericite-pyrite zones and that are cut by

mineralized structures with a variety of orientations. The main zone of interest is associated with quartz-pyrite-chalcopyrite-barite veins that has been traced for 400 m along strike and 300 m vertically. The drilling tested the zone over a strike length of 100 m and to a depth of 50 m.

IP and soil geochemistry delineated an anomalous area 900 m by 450 m which encompasses the F 1 zone and several other mineralized outcrop and float occurrences. In 1990, (Baerg, 1991) Golden Nevada Resources Inc. drill tested a number of the IP targets with 10 holes in 1990 that did return some significant results including 1.35 g Au/t over 15.35 m. As indicated in Section 9.3, the drilling did not follow-up the encouraging values reported above.

g. Minfile 106: North Zone on Todd 2:

The North Zone on the Todd 2 claim was a Newmont discovery and yielded significant results. The zone is described as northwest trending and vertically to steeply west dipping, comprising 0.1-2 m wide quartz, chalcopyrite, pyrite, hematite and breccia veins. The veins are commonly banded and brecciated and have been traced for 320 m. Trenching results ranged up to 3.8 g Au/t across 14.3 m.

The zone was tested with 9 holes and a Mise-a-la-masse survey. The drilling and geophysics suggest that the zone is discontinuous and poddy along strike and down dip. Widths on the zone range from 1-32 m. The zone was tested over a strike length of 150 m. Significant drill values include the following:

	3.47 g Au/t	0.75% Cu over	31.85 m
inc.	14.47 g Au/t	2.06% Cu over	5.95 m
	2.83 g Au/t	0.58% Cu over	1.95 m
	3.95 g Au/t	0.22% Cu over	2.00 m
	3.43 g Au/t	0.73% Cu over	1.70 m
	6.21 g Au/t	0.60% Cu over	1.75 m

Another zone 200 to 550 m east of the above zone contains identical mineralization except for the absence of stringer mineralization. Chip sampling on this zone produced assay values up to 9.53 g Au/t and 0.35% Cu across 1 m.

h. Minfile 105: North East Zone on Todd 2:

The showing was discovered by Noranda in the course the follow-up of a geochemical survey. The host rocks are propylitically altered green volcanics, green to buff agglomerates/flow breccias and tuff. Alteration consists of chlorite, carbonate, sericite and pyrite (2-5%). A feldspar porphyry is exposed near the showing. Mineralization consists of a west-northwest trending barite-quartz-galena vein which cuts the feldspar porphyry body. Samples assayed up to 39.30 g Ag/t, 12% Pb, and 6.2% Zn with negligible Cu and Au values.

i. Minfile 104: Orange Mt. Showing on Woodcock's Todd 2-3 claims (2 units) within Todd 1 and Todd 2:

The showing is hosted by altered volcanics within an alteration zone some 1500 m by 1200 m. A barite jasper zone lies within the alteration zone and is the locus of the showing. Mineralization comprises pyrite, barite, and galena. Abundant jarosite is noted in the intensely altered area. Chip samples ranging up to 232.5 g Ag/t and 12.8% Pb across 0.7m were reported. Approximately 190 m east northeast of the showing grab samples assayed up to 199.5 g Ag/t and 27.7% Pb. Approximately 250 m northeast of the showing grab samples assayed up to greater than 100 g Ag/t, 0.22% Cu, and 0.28% Pb.

j. Minfile 103: Bow 31 Showing on Todd 2:

Brucejack Gold Ltd. outlined an area of anomalous gold and silver values in 1987-1988. Marlin Developments analyzed the previously collected samples for base metals. The showing consists of massive to weakly foliated, fine grained tuff that contains 7 to 10% finely disseminated pyrite. A grab sample assayed 175.9 g Ag/t, 0.41% Pb, and 0.52% Zn.

k. Minfile 102: Bow 32 Showing on Todd 2:

Brucejack Gold in conjunction with Marlin Developments found the zone in the follow-up of a geochemical survey. Mineralized outcrops occur on both sides of Todd Creek over a distance of about 200 m. Silver values from the outcrops typically range from 34 to 343 g Ag/t. The highest grade mineralization occurs on the east bank of the creek and is hosted in a hematite-chlorite altered felsic tuff. It consists of a 20 to 30 cm wide stock work of quartz, barite and carbonate containing 15% pyrite as disseminations and stringers. A sample of this mineralization assayed 2262.9 g Ag/t. Immediately west of the showing on the west bank of the creek, a grab sample assayed 0.14 g Au/t, 233.1 g Ag/t and 0.54% Pb.

MINFILE NUMBER: 104A 102 NATIONAL MINERAL INVENTORY:

NAME(S): BOW 32, BOW 1-41

STATUS: Showing MINING DIVISION: Skeena
NTS MAP: 104A05W UTM ZONE: 09
LATITUDE: 56 17 22 NORTHING: 6238350
LONGITUDE: 129 45 09 EASTING: 453415
ELEVATION: 0826 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Approximate centre of the area containing mineralized outcrops on the east side of Todd Creek (Assessment Report 18820).

COMMODITIES: Silver Gold Lead

MINERALS
SIGNIFICANT: Pyrite
ASSOCIATED: Quartz Barite Carbonate
ALTERATION: Hematite Chlorite
ALTERATION TYPE: Hematite Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Stockwork Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Altered Felsic Tuff
Volcanic Breccia
Conglomerate
Siltstone
Sandstone
Tuff

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay YEAR: 1988
SAMPLE TYPE: Grab

COMMODITY	GRADE
Silver	2262.9000 Grams per tonne

COMMENTS: Composite chip sample(?) from a 20 to 30-centimetre wide quartz-barite stockwork.
REFERENCE: Assessment Report 18820.

CAPSULE GEOLOGY

The Bow 32 showing is located on the east bank of Todd Creek, approximately 13 kilometres south of the confluence of Todd Creek with the Bowser River.

Brucejack Gold Ltd. staked the Bow 1-41 claims during 1987-88 and conducted reconnaissance exploration and trenching. An area of anomalous gold and silver values, in bedrock, was outlined in 1987 on the boundary of the Bow 31 and 32 claims. In 1990, Marlin Developments analyzed the previously collected silts and rocks for base metals.

The area of the showing is underlain by the Upper Triassic to Lower Jurassic Unuk River Formation of the Hazelton Group (Bulletin 63). The Formation comprises red, purple and green volcanic breccia, conglomerate, siltstone, sandstone and lithic and crystal tuffs. The tuffaceous rocks are weakly to strongly silicified along sheared or faulted zones, especially along valley bottoms. Several well silicified, gossanous zones occur along Todd Creek (Assessment Report 17477).

Mineralized outcrops occur on both sides of Todd Creek over a north-south distance of about 200 metres. Silver values from the outcrops typically range from 34.3 to 343 grams per tonne. The highest grade mineralization occurs on the east bank of the creek and is hosted in a hematite-chlorite altered felsic tuff. It consists of

CAPSULE GEOLOGY

a 20 to 30-centimetre wide stockwork of quartz, barite and carbonate containing 15 per cent pyrite as disseminations and stringers. A grab sample of this mineralization assayed 2,262.9 grams per tonne silver (Assessment Report 18820).

Immediately west of the showing, on the west bank of the creek, a grab sample assayed 233.1 grams per tonne silver, 0.14 gram per tonne gold and 0.54 per cent lead (Assessment Report 18820).

The reconnaissance work by Brucejack outlined several areas of anomalous gold values in stream sediments. One area was outlined west of the Bow 31 claim (on the Toc 7 claim). In 1987, Brucejack also sampled old trenches west of the Bow 31 claim, on the Todd Creek North gold-copper zone (104A 106). Grab samples assayed up to 5.49 grams per tonne gold (Assessment Report 17477).

BIBLIOGRAPHY

EMPR BULL 63
EMPR ASS RPT 17477, *18820, 20074, 20089, 20256
EMPR MAP 8
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 910829 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930322 REVISED BY: DEJ FIELD CHECK: N

MINFILE NUMBER: 104A 103 NATIONAL MINERAL INVENTORY:

NAME(S): BOW 31, BOW 1-41

STATUS: Showing
NTS MAP: 104A05W
LATITUDE: 56 17 04
LONGITUDE: 129 45 16
ELEVATION: 0853 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Mineralized outcrop on the east bank of Todd Creek (Assessment Report 18820).

MINING DIVISION: Skeena
UTM ZONE: 09
NORTHING: 6237780
EASTING: 453300

COMMODITIES: Silver Zinc Lead

MINERALS
SIGNIFICANT: Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Disseminated
CLASSIFICATION: Unknown

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Felsic Tuff
Volcanic Breccia
Conglomerate
Siltstone
Sandstone
Tuff

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane
TERRANE: Stikine
PHYSIOGRAPHIC AREA: Boundary Ranges

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay
SAMPLE TYPE: Grab
YEAR: 1988

COMMODITY	GRADE	
Silver	175.9000	Grams per tonne
Lead	0.4100	Per cent
Zinc	0.5200	Per cent

COMMENTS: Grab sample from a pyritic felsic tuff.
REFERENCE: Assessment Reports 18820, 20089.

CAPSULE GEOLOGY

The Bow 31 showing is located on the east bank of Todd Creek, approximately 13.5 kilometres south of the confluence of Todd Creek with the Bowser River.

Brucejack Gold Ltd. staked the Bow 1-41 claims during 1987-88 and conducted reconnaissance exploration and trenching. An area of anomalous gold and silver values, in bedrock, was outlined in 1987 on the boundary of the Bow 31 and 32 claims. In 1990, Marlin Developments analyzed the previously collected silts and rocks for base metals.

The area of the showing is underlain by the Upper Triassic to Lower Jurassic Unuk River Formation of the Hazelton Group (Bulletin 63). The Formation comprises red, purple and green volcanic breccia, conglomerate, siltstone, sandstone and lithic and crystal tuffs. The tuffaceous rocks are weakly to strongly silicified along sheared or faulted zones, especially along valley bottoms. Several well silicified, gossanous zones occur along Todd Creek (Assessment Report 17477).

The showing consists of a massive to weakly foliated fine-grained felsic tuff that contains 7 to 10 per cent finely disseminated pyrite. A grab sample assayed 175.9 grams per tonne silver, 0.52 per cent zinc and 0.41 per cent lead (Assessment Reports 18820, 20089).

The reconnaissance work by Brucejack outlined several areas of anomalous gold values in stream sediments. One area was outlined

CAPSULE GEOLOGY

west of the Bow 31 claim (on the Toc 7 claim). In 1987, Brucejack also sampled old trenches west of the Bow 31 claim, on the Todd Creek North gold-copper zone (104A 106). Grab samples assayed up to 5.49 grams per tonne gold (Assessment Report 17477).

BIBLIOGRAPHY

EMPR BULL 63
EMPR ASS RPT 17477, *18820, 20074, 20089, 20256
EMPR MAP 8
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 911212 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930322 REVISED BY: DEJ FIELD CHECK: N

MINFILE NUMBER: 104A 104 NATIONAL MINERAL INVENTORY:

NAME(S): WOODCOCK, ORANGE MOUNTAIN, TODD 2-3, MAIN, CAMP CREEK, FAULT CREEK, GLACIER CREEK

STATUS: Prospect
NTS MAP: 104A05W
LATITUDE: 56 17 12
LONGITUDE: 129 46 44
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: West end of the jasper-barite zone (Assessment Report 10404).

MINING DIVISION: Skeena
UTM ZONE: 09
NORTHING: 6238035
EASTING: 451775

COMMODITIES:	Lead	Silver	Zinc	Barite	
MINERALS					
SIGNIFICANT:	Galena	Pyrite	Barite		
ASSOCIATED:	Quartz	Barite	Jasper		
ALTERATION:	Silica	Sericite	Carbonate	Hematite	Chlorite
	Kaolinite	Jarosite			
ALTERATION TYPE:	Silicific'n	Sericitic	Propylitic	Oxidation	
MINERALIZATION AGE:	Unknown				
DEPOSIT					
CHARACTER:	Vein	Stockwork	Discordant		
CLASSIFICATION:	Hydrothermal	Epigenetic	Industrial Min.		

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Intermediate Volcanic
Basic Dike
Agglomerate
Tuff
Volcanic Breccia
Carbonaceous Pyritic Tuff
Trachytic Volcanic

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane
TERRANE: Stikine
PHYSIOGRAPHIC AREA: Boundary Ranges

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay
SAMPLE TYPE: Chip
YEAR: 1981

COMMODITY	GRADE	
Silver	232.5000	Grams per tonne
Lead	12.8000	Per cent

COMMENTS: Unspecified type of sample, probably a chip sample, across 0.7 metres of the jasper-barite zone. Negligible copper and zinc values.
REFERENCE: Assessment Report 10404, p. 12.

CAPSULE GEOLOGY

The Woodcock (Orange Mountain) showing is located about 1500 metres west of Todd Creek, approximately 13 kilometres south of the confluence of Todd Creek with the Bowser River.

The showing was discovered in 1981 during a prospecting-mapping program by J.R. Woodcock on behalf of Riocanex Incorporated. This work outlined widespread barite mineralization, in places associated with jasper and galena, on the Todd 2 and 3 claims. Woodcock conducted analytical and petrographic work during 1984-85. In 1985, he dropped all the claims except two units on Todd 2. During 1986-90, both Brucejack Gold Ltd. and Noranda Exploration Company Limited carried out work near the showing. No further work was reported on the showing itself.

The area is underlain by the Upper Triassic to Lower Jurassic Unuk River Formation of the Hazelton Group (Bulletin 63). Near the showing, the rocks trend north and dip east. The rocks consist predominantly of volcanics, intruded by basic dikes; rare limestone has been reported. The volcanics are formed by intermediate volcanics, red agglomerate and tuff. Light grey siliceous tuff,

CAPSULE GEOLOGY

carbonate-rich tuff, volcanic breccia and carbonaceous pyritic tuff have been reported approximately 1500 metres to the south, near Fall Creek (Assessment Report 10404).

Three main sets of faults have been recognized: a) a northwest-trending set dips about 60 degrees west, b) an east trending set dips vertically, and c) an east trending set dips 25 degrees north.

The volcanics are variably altered over an area of approximately 1500 by 1200 metres west of Todd Creek. In this large alteration zone 4 separate areas of medium to intense alteration have been reported: the Main, Camp Creek, Fault Creek and Glacier Creek zones. The Main zone, about 1000 by 500 metres in size, encompasses much of the barite mineralization and includes a jasper-barite zone.

Petrographic work indicates that the alteration coincides with a pile of trachytic volcanics. Outlying volcanics are predominantly propylitized andesites; carbonate, hematite and chlorite are typical alteration minerals. The trachytic volcanics themselves are typically variably sericitized and silicified. Kaolinite accompanies sericite in places. Silicification, possibly post dating the sericitization, is represented by: 1) fine-grained matrix replacement of the trachytes, 2) coarse-grained quartz lenses and veinlets, often with barite, and 3) in at least one location, banded opaline quartz (Assessment Report 13684).

Mineralization comprises pyrite, barite and galena. Pyrite is widespread throughout the alteration, mainly as disseminations, with lesser amounts along fractures or in barite veins. Much of the pyrite has been leached from the surface rocks. Abundant jarosite, in the more intensely altered rocks, suggests an original high pyrite content; limonite prevails in the lesser altered areas.

Barite is also widespread but is found mainly in the alteration zones but barite lenses and veins do occur well beyond the alteration. Barite is commonly accompanied by minor galena and pyrite together with varying amounts of calcite, jasper and jasper breccia. The barite forms pods (up to 30 by 7 metres), veins (0.1 to 2 metres wide and typically 10 to 20 metres long) and small concentrations (4 centimetres across).

The jasper-barite zone consists of jasper, barite, jasper breccia and minor galena and pyrite. It is characterized by convoluted banding of alternating jasper (or jasper breccia) and barite layers. Proportions of jasper and barite vary widely. Barite predominates in the western section. The jasper breccia includes fragments of jasper in a variable silica-hematite-barite matrix (Assessment Report 13684). The alteration zones are anomalous in lead, zinc, silver, arsenic, mercury and, locally, antimony. Copper and molybdenum are sporadically anomalous. The few gold analyses are low. A 0.7-metre wide chip(?) sample at the western end of the jasper-barite zone assayed 232.5 grams per tonne silver and 12.80 per cent lead with negligible copper and zinc values.

Approximately 190 metres to the east-northeast of the showing, grab samples from a southeast-trending series of barite pods assayed up to 199.5 grams per tonne silver and 27.7 per cent lead (Assessment Report 10404).

About 250 metres to the northeast of the showing a grab sample assayed 0.22 per cent copper, 0.28 per cent lead and greater than 100 grams per tonne silver (Assessment Report 10404).

Approximately 1800 metres south-southeast of the showing, at Fall Creek, quartz-calcite veins contain chalcopyrite and pyrite (the Todd Creek North Zone, 104A 106). Samples assayed up to 2.16 per cent copper and 0.41 grams per tonne gold (Assessment Report 10404).

BIBLIOGRAPHY

EMPR BULL 63
EMPR ASS RPT *10404, 12345, *13684, 15988, 17423, 17477, 18800, 18820, 20074, 20089, 20256
EMPR MAP 8
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 910903 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930322 REVISED BY: DEJ FIELD CHECK: N

MINFILE NUMBER: 104A 105 NATIONAL MINERAL INVENTORY:

NAME(S): TODD CREEK (NORTH ZONE EAST), FALL CREEK, TOC 8

STATUS: Showing MINING DIVISION: Skeena
NTS MAP: 104A05W UTM ZONE: 09
LATITUDE: 56 16 22 NORTHING: 6236480
LONGITUDE: 129 45 52 EASTING: 452650
ELEVATION: 0914 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Mineralized vein (Assessment Report 15988).

COMMODITIES: Lead Zinc Silver

MINERALS
SIGNIFICANT: Galena
ASSOCIATED: Barite Quartz
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Feldspar Porphyry
Andesite Flow
Andesite
Andesitic Agglomerate
Andesitic Flow Breccia
Andesitic Tuff
Dacitic Flow
Dacite
Dacitic Flow Breccia
Mafic Dike

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay YEAR: 1986
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	39.3000	Grams per tonne
Lead	12.0000	Per cent
Zinc	6.2000	Per cent

COMMENTS: Grab sample from barite-quartz-galena vein.
REFERENCE: Assessment Report 15988.

CAPSULE GEOLOGY

The Todd Creek (North Zone East) showing is located 200 metres west of Todd Creek and 300 metres north of Fall Creek. Fall Creek is a tributary of Todd Creek that lies about 15 kilometres south of the confluence of Todd Creek with the Bowser River. The showing is about 550 metres east-northeast of the Todd Creek (North Zone) (104A 106).

In 1986, Noranda Exploration Company Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. That year Noranda carried out mapping, reconnaissance prospecting and silt sampling in the area. This showing, on the Toc 8 claim, was discovered at the same time.

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). The rocks comprise green flows, agglomerates/flow breccias and tuffs and purple, green to buff fragmental flows and flow breccias. The andesite and andesite-dacite units commonly exhibit propylitic alteration comprising variable chlorite, carbonate, sericite and 2 to 5 per cent disseminated pyrite. The contact between the andesite and andesite-dacite units trends north-northwest and dips vertically. The volcanics are intruded by narrow, coeval(?) fine-grained mafic dikes. A feldspar porphyry intrusive(?) is exposed near the showing.

CAPSULE GEOLOGY

East-trending shearing is locally conspicuous and jointing is well developed in the andesites.

Mineralization consists of a west-northwest trending barite-quartz-galena vein that cuts the feldspar porphyry body. Grab(?) samples, collected in 1986, assayed up to 12.0 per cent lead, 6.2 per cent zinc and 39.3 grams per tonne silver; copper and gold values were negligible (Assessment Report 15988).

BIBLIOGRAPHY

EMPR EXPL 1987-A15; 1988-A15,A32; 1990-35
EMPR BULL 63
EMPR ASS RPT 10404, 12345, 13684, *15988, 17423, 17477, *18800, 18820, 20074, 20089, 20256
EMPR MAP 8
EMPR PF (In 082M 141 - Goldnev Resources Inc., SMF No.34/89, July 1989)
EMPR MER 1990-36
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 911212 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930322 REVISED BY: DEJ FIELD CHECK: N

MINFILE NUMBER: 104A 106 NATIONAL MINERAL INVENTORY: 104A4 Cu2/Au5

NAME(S): TODD CREEK (NORTH ZONE), FALL CREEK, TOC 8, NEWMONT

STATUS: Prospect MINING DIVISION: Skeena
NTS MAP: 104A05W UTM ZONE: 09
LATITUDE: 56 16 14 NORTHING: 6236255
LONGITUDE: 129 46 18 EASTING: 452210
ELEVATION: 0960 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The westernmost vein (zone A) in the North Zone crosses Fall Creek (Assessment Report 15988).

COMMODITIES: Gold Copper

MINERALS
SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz Pyrite Hematite Calcite
ALTERATION: Chlorite Carbonate Sericite Pyrite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Vein Stockwork Discordant Breccia
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Tabular
MODIFIER: Fractured
DIMENSION: 320 x 2 Metres STRIKE/DIP: 315/ W TREND/PLUNGE:
COMMENTS: Drilling indicates that the dip is subvertical.

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Andesite Flow
Andesite Agglomerate
Andesitic Flow Breccia
Andesitic Tuff
Flow
Dacitic Flow
Dacitic Flow Breccia
Mafic Dike
Feldspar Porphyry

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: DRILL HOLE

CATEGORY: Assay YEAR: 1988
SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Gold	3.4700	Grams per tonne
Copper	0.7500	Per cent

COMMENTS: Intersection in A Zone, across 31.85 metres in drill hole NTC 88-22 (29.3 to 61.15 metres).
REFERENCE: Assessment Report 18800.

CAPSULE GEOLOGY

The Todd Creek (North Zone) is located on Fall Creek, a tributary of Todd Creek, about 15 kilometres south of the confluence of Todd Creek with the Bowser River.

The prospect was discovered in 1959 by prospectors O. Olsen and F. Hasselberg Jr. on behalf of Newmont Mining Corporation. Newmont conducted a limited trenching and drilling program (3 holes?) on the prospect in 1960. Samples from trenching assayed up to 3.8 grams per tonne gold across 14.3 metres (Property File - Goldnev Resources, 1989). No further work was reported until 1981 when Woodcock, working for Riocanex Incorporated, sampled the trenches. In 1987, Brucejack Gold sampled the old trenches. In 1986, Noranda Exploration Company Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. That year Noranda resampled the

CAPSULE GEOLOGY

Newmont A and B zones and carried out mapping, reconnaissance prospecting and silt sampling in the area. In 1987, Noranda conducted further sampling in the trenches and extended the mineralized veins farther to the south. In 1988, a grid was established and detailed mapping was carried out. That year Noranda drilled 11 holes (NTC-88-20 to 25 and 40 to 44) on the North Zone (A zone only) and conducted a Mise-a-la-Masse survey.

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). Green andesite flows, agglomerates, tuffs and purple, green to buff fragmental flows and flow breccias are intruded by narrow, coeval(?) fine-grained mafic dikes.

The andesite and andesite-dacite units commonly exhibit propylitic alteration comprising variable chlorite, carbonate, sericite and 2 to 5 per cent disseminated pyrite. The contact between the andesite and andesite-dacite units trends north-northwest and dips vertically. A feldspar porphyry intrusive is exposed about 600 metres east of the prospect. East-trending shearing is locally conspicuous and jointing is well developed in the andesites.

The North Zone mineralization comprises several north-northwest to northwest-trending, vertical to steeply southwest-dipping, quartz and breccia veins. The veins, 0.1 to 2 metres wide, contain quartz, calcite, chalcopyrite, pyrite, and hematite. The veins have been divided into two zones: the A and B zones.

The western A zone is formed by two parallel veins separated by a quartz-chalcopyrite-hematite stringer zone. The veins, commonly banded and brecciated, have sulphides distributed throughout. The A zone has been traced for 320 metres on the surface. At the A zone surface chip samples have assayed up to 5.25 grams per tonne gold and 0.18 per cent copper across 3 metres (Assessment Report 15988). Drilling tested the A zone over a length of 150 metres and indicated that the zone is discontinuous downdip and along strike. Values encountered were generally low and over narrow widths, except in drillholes 88-22 and 88-41. Samples from drillhole 88-22 assayed 3.47 grams per tonne gold and 0.75 per cent copper across 31.85 metres (including 14.47 grams per tonne gold and 2.06 per cent copper across 5.95 metres)(Assessment Report 18800).

Samples from drillhole 88-41 assayed 6.21 grams per tonne gold and 0.60 per cent copper across 1.75 metres respectively (Assessment Report 18800). Holes drilled downdip and immediately along strike of hole 88-22 failed to intersect significant mineralization.

The B zone, 200 to 550 metres east of the A zone, consists of several north-northwest trending. These veins are identical in character to those in the A zone except for the absence of the stringer zone. One of the veins in the B zone has been traced for 170 metres. Chip samples from the B zone assayed up to 9.53 grams per tonne gold and 0.35 per cent copper across 1.0 metre (Assessment Report 18800).

BIBLIOGRAPHY

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EMPR BULL 63
EMPR ASS RPT 10404, 12345, 13684, 15988, 17423, 17477, *18800, 18820, 20074, 20089, 20256
EMPR MAP 8
EMPR PF (In 082M 141 - Goldnev Resources Inc., SMF No. 34/89, July 1989)
EMPR MER 1990-36
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 910903 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930322 REVISED BY: DEJ FIELD CHECK: N

MINFILE NUMBER: 104A 106

MINFILE NUMBER: 104A 107 NATIONAL MINERAL INVENTORY:

NAME(S): F 1 ZONE, FALL CREEK, TOC 8-9

STATUS: Prospect
NTS MAP: 104A05W
LATITUDE: 56 15 59
LONGITUDE: 129 46 30
ELEVATION: 1234 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of drill holes NTC-88-47 and 48 (Assessment Report 18800).

MINING DIVISION: Skeena
UTM ZONE: 09
NORTHING: 6235785
EASTING: 452000

COMMODITIES: Gold, Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite		
ASSOCIATED:	Quartz	Calcite	Barite	
ALTERATION:	Chlorite	Sericite	Quartz	Pyrite
ALTERATION TYPE:	Propylitic			
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER:	Vein	Breccia	Discordant	Shear
CLASSIFICATION:	Epigenetic	Hydrothermal		
SHAPE:	Tabular			
MODIFIER:	Fractured	Sheared		
DIMENSION:	400 x 300 x 3	Metres	STRIKE/DIP: 315/90	TREND/PLUNGE:
COMMENTS:	Mineralized zone.			

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Andesite Flow
Andesite
Andesite Breccia
Mafic Dike

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: DRILL HOLE

CATEGORY: Assay YEAR: 1988
SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Gold	2.7300	Grams per tonne
Copper	0.5900	Per cent

COMMENTS: Intersection across 13.0 metres in drill hole NTC-88-47 (36.65 to 49.65 metres).
REFERENCE: Assessment Report 18800.

CAPSULE GEOLOGY

The F 1 zone (Fall Creek) is located about 450 metres south of Fall Creek, a tributary of Todd Creek that lies approximately 15 kilometres south of the confluence of Todd Creek with the Bowser River.

In 1986, Noranda Exploration Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. The mineralization was discovered that year during reconnaissance prospecting near the Todd Creek (North Zone) (104A 106). During 1986-89, Noranda completed: geological mapping, silt and soil geochemical surveys, induced polarization and magnetometer surveys, and diamond drilling (4 holes, totalling 368 metres).

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). Pervasively altered andesite flows and breccias are intruded by 1 to 3-metre wide fine-grained mafic dikes. Alteration comprises chlorite-sericite-quartz-pyrite; strongly altered quartz-sericite-pyrite zones appear related to east and north-trending structures. The andesites likely trend northwest. North to northwest-trending, vertically dipping fractures, shears and faults are the most conspicuous structural elements in the area (Assessment Report

CAPSULE GEOLOGY

18800).

Mineralization consists of two types of veins: 1) pyrite-quartz veins, up to 1 metre wide, with 1 to 5 per cent disseminated pyrite and 2) pyrite-chalcopyrite-quartz-calcite-barite veins, up to 3 metres wide. Mineralization occurs over a 700 by 200 metre area, but the main zone of interest (to date) lies in the eastern portion of this area. Here, a zone of quartz-pyrite-chalcopyrite-barite veins and breccias occurs in a northwest-striking, vertical to steeply dipping shear/fracture zone. The zone (zone A) appears to be at least 3 metres wide and has been traced for 400 metres along strike and 300 metres vertically. Surface grab(?) samples from the zone assayed from traces of gold and copper to 24.2 grams per tonne gold and 2.24 per cent copper (Assessment Report 18800). The drilling tested the zone over a length of 100 metres and to a depth of 50 metres. The zone intersected in the drillholes is 1.25 to 11 metres wide and comprises chlorite-sericite-quartz altered andesite. The andesite contains chalcopyrite-pyrite blebs and veins and quartz-calcite-chalcopyrite-barite veins and breccias. The barite forms cross cutting features in the zone and is apparently late. The best intersection was encountered in hole NTC-88-47 which assayed 2.73 grams per tonne gold and 0.59 per cent copper across 13.0 metres (including 5.41 grams per tonne gold and 0.50 per cent copper across 5.25 metres) (Assessment Report 18800).

The induced polarization and soil surveys outlined an anomalous area, 900 metres long by 450 metres wide, which encompasses the F 1 Zone and several other mineralized outcrop and float occurrences to the west.

BIBLIOGRAPHY

EMPR EXPL 1987-A15; 1988-A15,A32; 1990-35
EMPR BULL 63
EMPR ASS RPT 10404, 12345, 13684, 15988, 17423, 17477, *18800, 18820, 19922, 20074, 20089, 20256
EMPR MAP 8
EMPR PF (In 082M 141 - Goldnev Resources Inc., SMF No. 34/89, July 1989)
EMPR MER 1990-36
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 910904 CODED BY: WC FIELD CHECK: N
DATE REVISED: REVISED BY: FIELD CHECK: N

MINFILE NUMBER: 104A 108 NATIONAL MINERAL INVENTORY:

NAME(S): TOC 9

STATUS: Showing
NTS MAP: 104A05W
LATITUDE: 56 15 33
LONGITUDE: 129 46 50
ELEVATION: 1585 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Mineralized vein (Assessment Report 15988).

MINING DIVISION: Skeena
UTM ZONE: 09
NORTHING: 6235000
EASTING: 451650

COMMODITIES: Gold Copper

MINERALS
SIGNIFICANT: Chalcopyrite
ALTERATION: Sericite Silica Pyrite
ALTERATION TYPE: Sericitic Silicific'n Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Tabular

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Altered Feldspar Porphyry
Andesite Flow
Andesite
Andesite Breccia
Mafic Dike

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay YEAR: 1986
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Gold	32.9000	Grams per tonne
Copper	3.0800	Per cent

COMMENTS: Grab sample from a narrow chalcopyrite vein.
REFERENCE: Assessment Report 15988.

CAPSULE GEOLOGY

The Toc 9 showing is located about 1800 metres southwest of the confluence of Fall and Todd Creeks which, in turn, lies approximately 15 kilometres south of the confluence of Todd Creek with the Bowser River.

In 1986, Noranda Exploration Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. The mineralization was discovered that year during reconnaissance prospecting near the Todd Creek (North Zone) (104A 106) deposit. During 1986-89, Noranda completed: geological mapping, silt and soil geochemical surveys, induced polarization and magnetometer surveys and diamond drilling. The work was done mainly on the Todd Creek North and F 1 zones (104A 107).

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). Pervasively altered northwest(?)-trending andesite flows and breccias are intruded by fine-grained mafic dikes, 1 to 3 metres wide. An altered feldspar porphyry body (intrusive?) occurs near the showing (Assessment Report 15988). North to northwest-trending, vertically dipping fractures, shears and faults are the most conspicuous structural elements in the area (Assessment Report 18800).

Mineralization consists of narrow chalcopyrite veins that occur in 1 to 2-metre wide, discontinuous, north-northwest trending shear zones. The veins are hosted in the altered feldspar porphyry. Alteration consists of quartz, sericite and pyrite.

CAPSULE GEOLOGY

Grab samples assayed up to 32.9 grams per tonne gold and 3.08 per cent copper (Assessment Report 15988).

BIBLIOGRAPHY

EMPR EXPL 1987-A15; 1988-A15,A32; 1990-35
EMPR BULL 63
EMPR ASS RPT 10404, 12345, 13684, *15988, 17423, 17477, *18800, 18820, 19922, 20074, 20089, 20256
EMPR MAP 8
EMPR PF (In 082M 141 - Goldnev Resources Inc., SMF No. 34/89, July 1989)
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 911216 CODED BY: WC FIELD CHECK: N
DATE REVISED: REVISED BY: FIELD CHECK: N

MINFILE NUMBER: 104A 109 NATIONAL MINERAL INVENTORY:

NAME(S): KNOB 1, TOC 15

STATUS: Showing MINING DIVISION: Skeena
NTS MAP: 104A05W UTM ZONE: 09
LATITUDE: 56 15 34 NORTHING: 6235000
LONGITUDE: 129 45 14 EASTING: 453300
ELEVATION: 0942 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: One of several narrow mineralized veins within a large gossanous area (Assessment Report 17423).

COMMODITIES: Copper

MINERALS
SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Silica Sericite
ALTERATION TYPE: Silicific'n Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Tabular

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Andesite Flow
Andesite
Andesite Breccia
Mafic Dike

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay YEAR: 1987
SAMPLE TYPE: Grab

COMMODITY	GRADE
Copper	0.3700 Per cent

COMMENTS: Grab sample from a narrow chalcopyrite vein.
REFERENCE: Assessment Report 17423.

CAPSULE GEOLOGY

The Knob 1 zone is located about 1300 metres south-southeast of the confluence of Fall and Todd creeks. This confluence is approximately 15 kilometres south of the confluence of Todd Creek and the Bowser River.

In 1986, Noranda Exploration Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. During 1986-89, Noranda completed: geological mapping, silt and soil geochemical surveys, induced polarization and magnetometer surveys, and diamond drilling. The work was done mainly mostly on the Todd Creek North (104A 106) and F 1 zones (104A 107). The Knob 1 zone was discovered in 1987.

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). Pervasively altered northwest(?)-trending andesite flows and breccias are intruded by fine-grained mafic dikes, 1 to 3 metres wide. North to northwest-trending, vertically dipping fractures, shears and faults are the most conspicuous structural elements in the area (Assessment Report 18800).

Mineralization consists of several, narrow (1-10 centimetres wide), chalcopyrite veins that occur in a large prominent gossan. The gossan includes extensive areas of quartz-sericite-pyrite alteration.

A grab sample from one of the veins assayed 0.37 per cent copper; values for other metals were negligible (Assessment Report 17423).

BIBLIOGRAPHY

EMPR EXPL 1987-A15; 1988-A15,A32; 1990-35
EMPR BULL 63
EMPR ASS RPT 10404, 12345, 13684, 15988, *17423, 17477, *18800, 18820, 19922, 20074, 20089, 20256
EMPR MAP 8
EMPR PF (In 082M 141 - Goldnev Resources Inc., SMF No. 34/89, July 1989)
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 911216 CODED BY: WC FIELD CHECK: N
DATE REVISED: 920207 REVISED BY: WC FIELD CHECK: N

MINFILE NUMBER: 104A 110 NATIONAL MINERAL INVENTORY:

NAME(S): RIDGE, TOC 9, MJ 3-4,
MT. JOHNSON

STATUS: Showing MINING DIVISION: Skeena
NTS MAP: 104A04W UTM ZONE: 09
LATITUDE: 56 14 47 NORTHING: 6233560
LONGITUDE: 129 47 23 EASTING: 451060
ELEVATION: 1585 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: West-central part of mineralized outcrop area (Assessment Report 17423).

COMMODITIES: Copper Silver Gold Lead Zinc

MINERALS
SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT
CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Andesite
Feldspar Porphyry
Andesite Flow
Andesite Agglomerate
Rhyolite Flow
Rhyolite Tuff

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: SAMPLE

CATEGORY: Assay YEAR: 1987
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	5.2000	Grams per tonne
Gold	0.3400	Grams per tonne
Copper	14.1400	Per cent

COMMENTS: Highest assays from grab(?) samples of mineralized outcrops.
REFERENCE: Assessment Report 17423.

CAPSULE GEOLOGY

The Ridge showing lies about 1700 metres west of Todd Creek and approximately 17.5 kilometres south of the confluence of Todd Creek and the Bowser River.

In 1986, Noranda Exploration Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. During 1986-88, Noranda completed reconnaissance exploration work, including geological mapping, prospecting and silt and soil geochemical surveys. The showing was discovered in 1987.

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). Predominant, north to northwest-trending, andesite flows and agglomerates are interbedded with feldspar porphyry (intrusive?) and rhyolite flows and tuffs.

The showing consists of several mineralized outcrops that cover an area of about 300 by 200 metres. Mineralization is formed by pyrite, chalcopyrite and malachite. Details on the mineralization are unavailable. The mineralized outcrops, assumed to be andesitic volcanics, lie immediately west of a large gossan that approximately coincides with a feldspar porphyry intrusive(?) (Assessment Report 18800).

Grab(?) samples assayed up to 14.14 per cent copper, 0.34 grams

CAPSULE GEOLOGY

per tonne gold and 5.2 grams per tonne silver (Assessment Report 17423).

Approximately 200 metres to the north of the showing, a grab(?) sample from an outcrop assayed 1.17 per cent lead, 1.71 per cent zinc and 12.7 grams per tonne silver with negligible molybdenum, copper, arsenic, cadmium and antimony values (Assessment Report 17423).

BIBLIOGRAPHY

EMPR EXPL 1987-A15; 1988-A15,A32; 1990-35
EMPR BULL 63
EMPR ASS RPT 15988, *17423, 18800, 20835
EMPR MAP 8
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 911216 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930305 REVISED BY: DEJ FIELD CHECK: N

MINFILE NUMBER: 104A 11

MINFILE NUMBER: 104A 111 NATIONAL MINERAL INVENTORY:

NAME(S): MID, RHYOLITE CREEK, TOC 10, MJ 3-4, MT. JOHNSON

STATUS: Showing
NTS MAP: 104A04W
LATITUDE: 56 14 19
LONGITUDE: 129 47 29
ELEVATION: 1539 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: West-southwest trending quartz-pyrite-chalcopyrite vein (Assessment Report 15988).

MINING DIVISION: Skeena
UTM ZONE: 09
NORTHING: 6232700
EASTING: 450940

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	
ASSOCIATED:	Quartz		
ALTERATION:	Silica	Sericite	Pyrite
ALTERATION TYPE:	Sericitic		
MINERALIZATION AGE:	Unknown		

DEPOSIT

CHARACTER:	Vein	Discordant		
CLASSIFICATION:	Hydrothermal	Epigenetic		
SHAPE:	Tabular			
DIMENSION:		Metres	STRIKE/DIP: 260/	TREND/PLUNGE:

HOST ROCK
DOMINANT HOST ROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic	Hazelton	Unuk River	

LITHOLOGY: Andesite Flow
Andesite Tuff
Andesite Agglomerate
Andesite Breccia
Andesite
Feldspar Porphyry
Dacitic Volcaniclastic
Rhyolite

GEOLOGICAL SETTING
TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine

RESERVES

ORE ZONE: VEIN

CATEGORY: Assay YEAR: 1986
SAMPLE TYPE: Grab

COMMODITY	GRADE
Copper	1.6800 Per cent

COMMENTS: Grab sample from a west-southwest trending quartz-pyrite-chalcopyrite vein.
REFERENCE: Assessment Report 15988.

CAPSULE GEOLOGY

The Mid zone is located about 1900 metres west of Todd Creek and near the headwaters of Rhyolite Creek. Rhyolite Creek is a tributary of Todd Creek located about 18.5 kilometres south of the confluence of Todd Creek and the Bowser River.

In 1986, Noranda Exploration Limited staked the Toc 1-12 claims to cover showings in the Todd Creek area. The showing was discovered that year. During 1986-88, Noranda completed reconnaissance exploration work, including geological mapping, prospecting and silt and soil geochemical surveys.

The area is underlain by Hazelton Group rocks of the Upper Triassic to Lower Jurassic Unuk River Formation (Bulletin 63). Predominant, north to northwest-striking and northeast-dipping, maroon and grey andesite flows, agglomerates, tuffs and breccias are intercalated with lesser feldspar porphyry, dacitic volcaniclastics and rhyolite. The feldspar porphyry may include both intrusive and extrusive varieties. The felsic volcanics are moderately to strongly altered. Alteration consists of quartz-sericite-pyrite (Assessment

CAPSULE GEOLOGY

Report 18800).

The Mid zone, comprising an area about 500 by 250 metres, encompasses several west-southwest to northwest trending quartz-pyrite-chalcopyrite veins. The veins are 0.01 to 6 metres wide and 1 to 108 metres long. Grab samples from the veins assayed up to 1.68 per cent copper with negligible molybdenum, lead, zinc, silver, arsenic, cadmium, antimony and gold values (Assessment Report 15988, 17423).

BIBLIOGRAPHY

EMPR EXPL 1987-A15; 1988-A15,A32; 1990-35
EMPR BULL 63
EMPR ASS RPT *15988, *17423, *18800, 20835
EMPR MAP 8
GSC MAP 9-1957; 1418A
GSC OF 2582

DATE CODED: 910904 CODED BY: WC FIELD CHECK: N
DATE REVISED: 930305 REVISED BY: DEJ FIELD CHECK: N

6. REGIONAL GEOLOGY:

The Todd Creek property is situated in a broad, north-northwest trending volcanogenic-plutonic belt consisting of the Upper Triassic Stuhini Group and the Upper Triassic to Lower Middle Jurassic Hazelton Group. This belt has been termed the "Stewart Complex" (Figures 5, 6) by Grove (1986) and forms part of the Stikinia Terrane. The Stikinia Terrane together with the Cache Creek and Quesnel Terranes constitute the Intermontaine Superterrane which was accreted to North America in Middle Jurassic time (Monger et al, 1982). To the west, the Stewart Complex is bordered by the Coast Plutonic Complex. Sedimentary rocks of the Middle to Upper Jurassic Bowser Lake Group overlay the Stewart Complex in the east.

The Jurassic stratigraphy was established by Grove (1986, Figure 5) during regional mapping conducted from 1964 to 1968. Formational subdivisions have been made and are currently being modified and refined as regional work continues, most notably by the Geological Survey Branch of the British Columbia Ministry of Energy, Mines and Petroleum Resources (Alldrick, 1984, 1985, 1989); and, by the Geological Survey of Canada (Anderson, 1989; Anderson and Thorkelson, 1990). The sedimentological, structural, and stratigraphic framework of the area is being established with some degree of precision.

The Hazelton Group represents an evolving (alkalic/calc-alkalic) island arc complex, capped by a thick turbidite succession (Bowser Lake Group). Grove (1986) divided the Hazelton into four litho-stratigraphic units (time intervals defined by Alldrick, 1987):

1. The Upper Triassic to Lower Jurassic Unuk River Formation (Norian to Pliensbachian).

2. The Middle Jurassic Betty Creek Formation (Pliensbachian to Toarcian).

3. The Middle Jurassic Salmon River Formation (Toarcian to Bajocian).

4. The Middle to Upper Jurassic Nass Formation (Toarcian to Oxfordian - Kimmeridigian).

Alldrick assigned formational status (Mt. Dilworth Formation, Figure 7) to a Toarcian rhyolite unit (Monitor Rhyolite) overlying the Betty Creek Formation. Rocks of the Salmon River Formation are transitional between the mostly volcanic Hazelton Group and the wholly sedimentary Bowser Lake Group and are presently regarded as the uppermost formation of the Hazelton or the basal formation of the Bowser Lake Group.

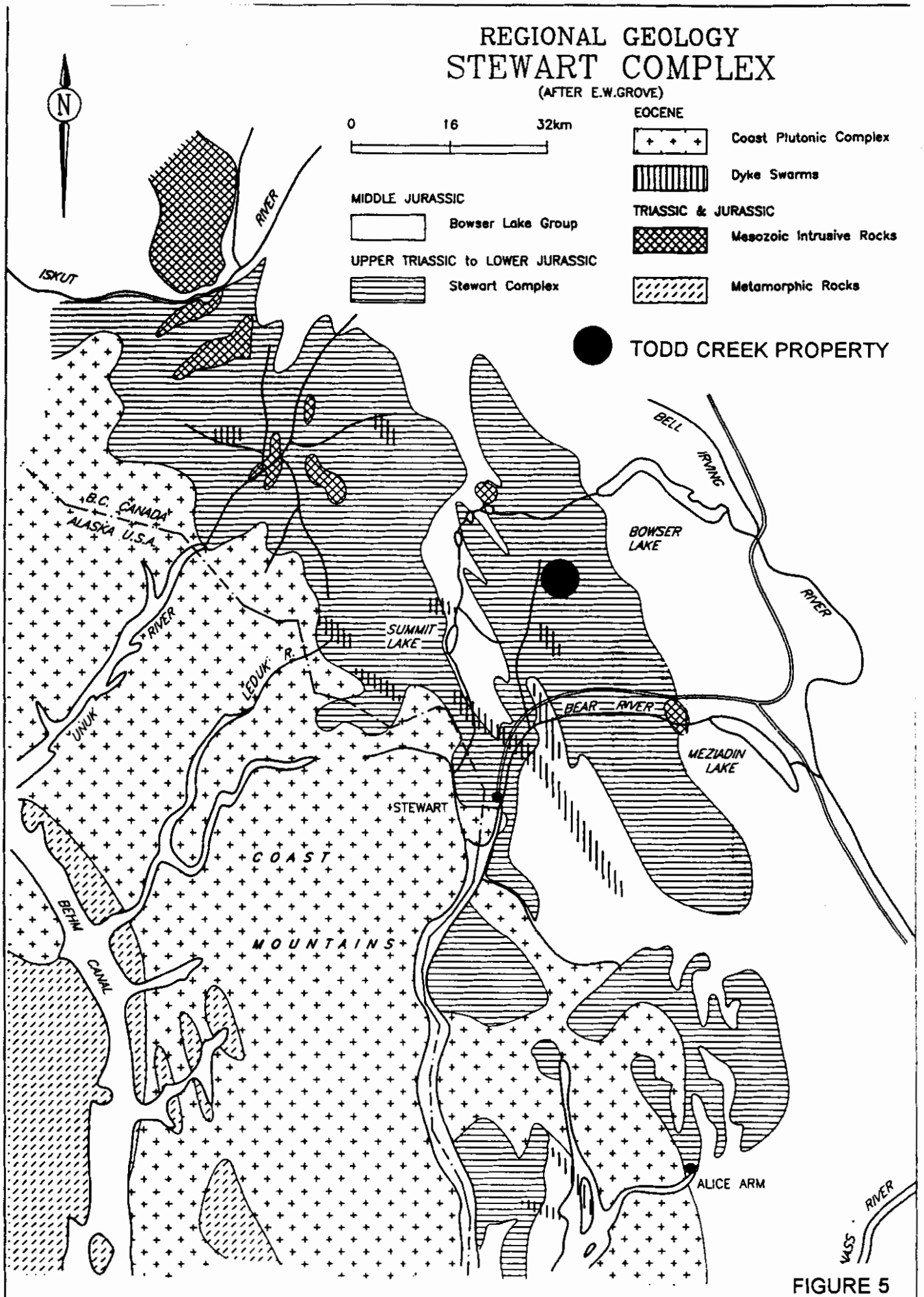
REGIONAL GEOLOGY
STEWART COMPLEX
(AFTER E.W.GROVE)
N
0
16
32km
EOCENE
Coast Plutonic Complex
Dyke Swarms
MIDDLE JURASSIC
Bowser Lake Group
TRIASSIC & JURASSIC
Mesozoic Intrusive Rocks
UPPER TRIASSIC to LOWER JURASSIC
Stewart Complex
Metamorphic Rocks
TODD CREEK PROPERTY
ISKUT
RIVER
B.C. CANADA
ALASKA U.S.A.
UNUK
RIVER
LEDUK
R.
SUMMIT LAKE
BELL IRVING
BOWSER LAKE
RIVER
BEAR RIVER
MEZIADIN LAKE
STEWART
COAST
MOUNTAINS
BEHM CANAL
ALICE ARM
KLASS
RIVER

FIGURE 5

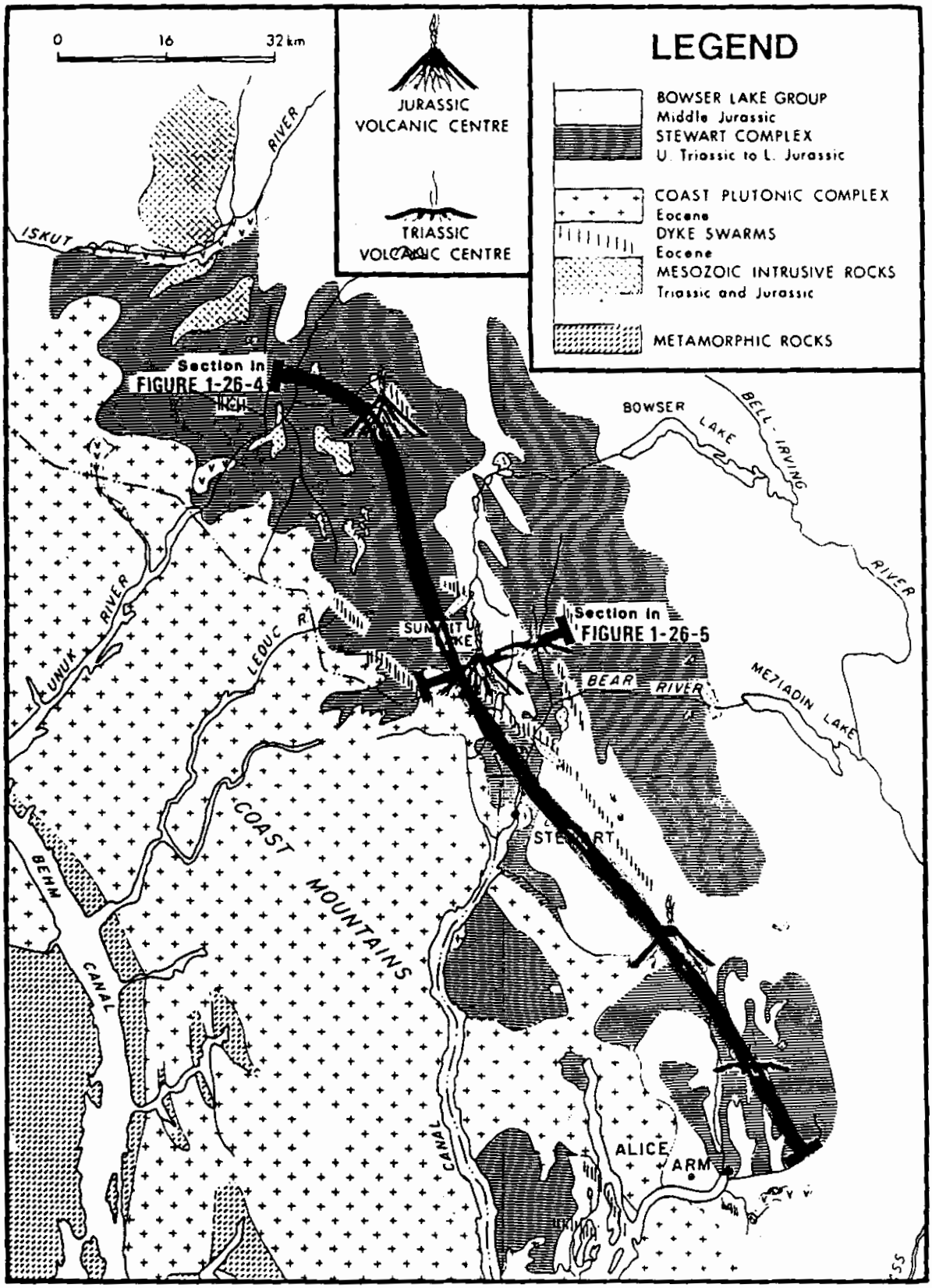

Figure 1-27-3. Distribution of the Stewart complex showing the locations of section lines for Figures 1-27-4 and 1-27-5.

FIGURE 6

STEWART VOLCANIC BELT

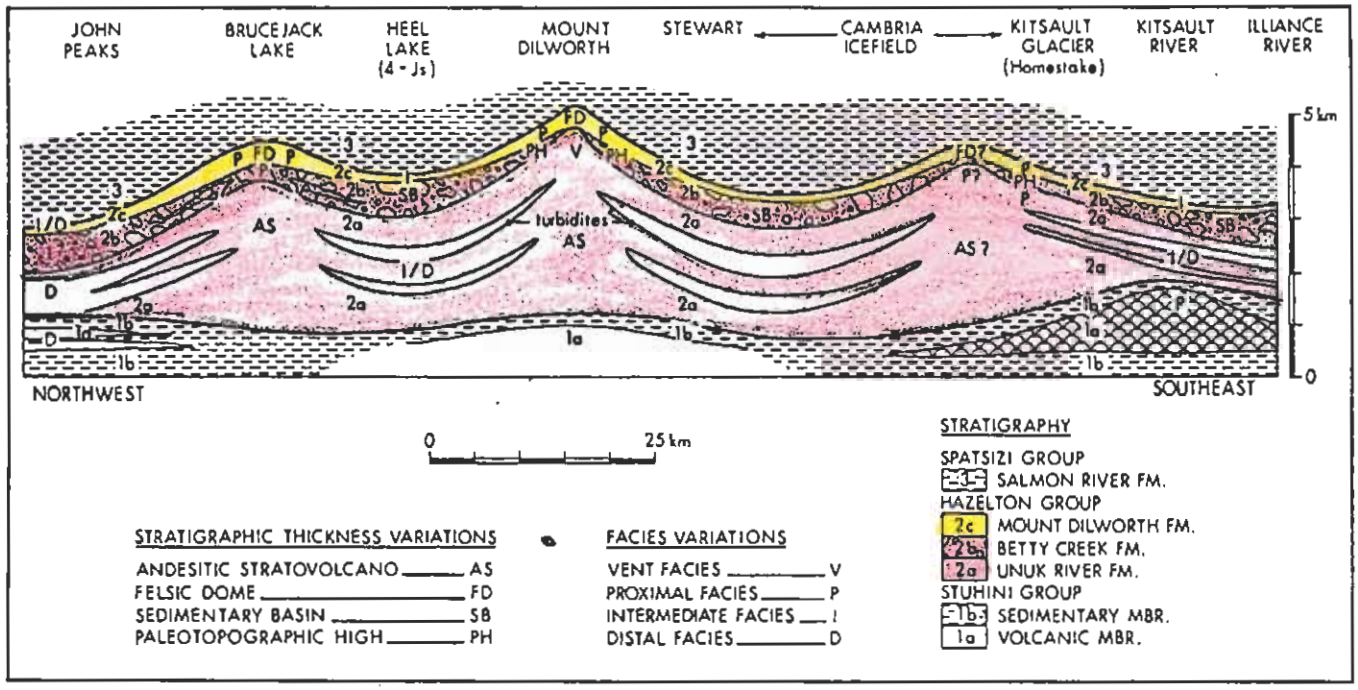

Figure 1-27-4. North-south schematic reconstruction through the Stewart complex.

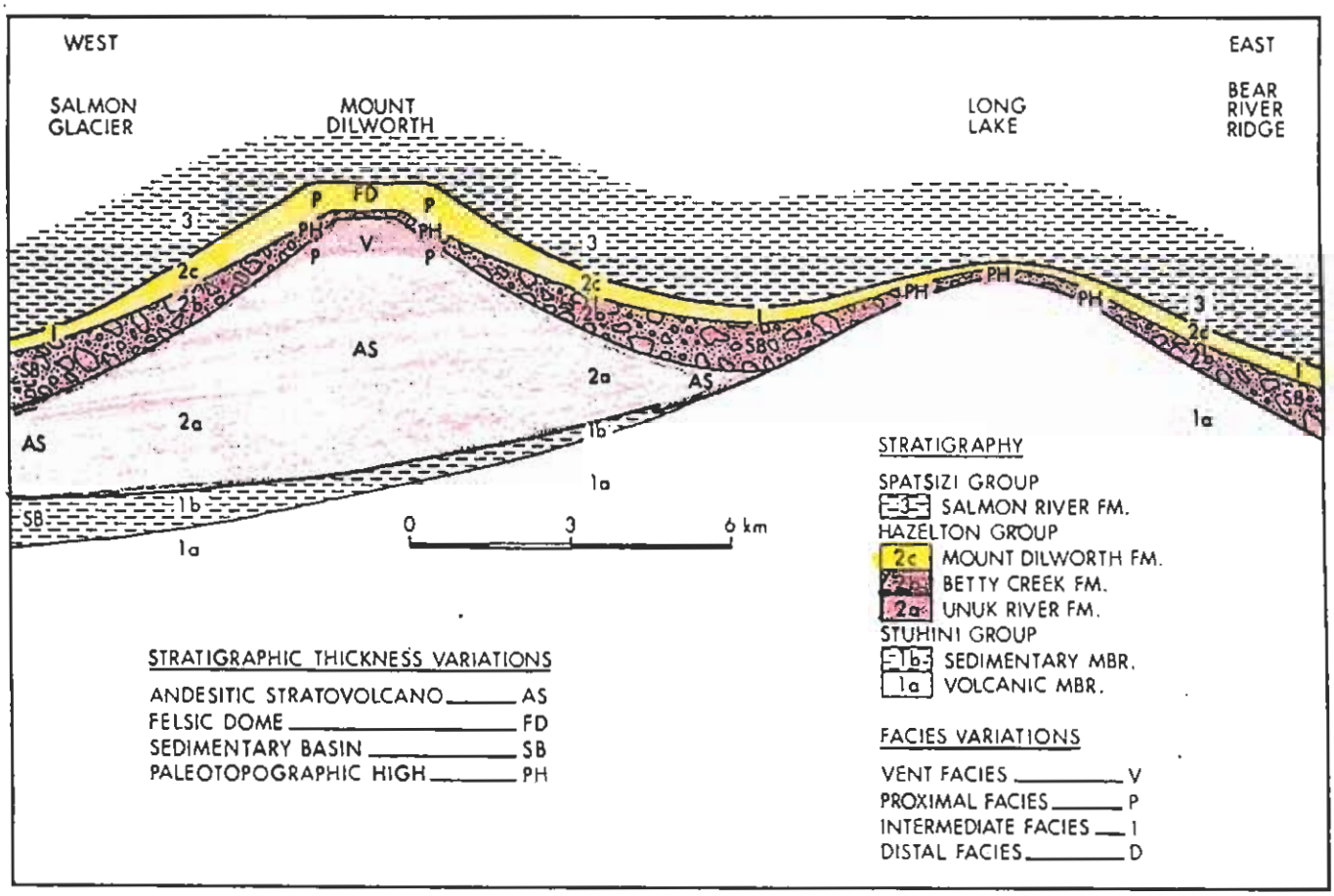

Figure 1-27-5. West-east schematic reconstruction through the Stewart complex.

FIGURE 7

DILWORTH FORMATION IN STEWART COMPLEX STRATIGRAPHY

The Unuk River Formation (Figure 7), a thick sequence of andesite flows and tuffs with minor interbedded sedimentary rocks, hosts a number of major gold deposits in the Stewart Camp (Figure 1). The unit is unconformably overlain by heterogeneous maroon to green, epiclastic volcanic conglomerates, breccias, greywackes and finer grained clastic rocks of the Betty Creek Formation. Felsic flows, tuffs and tuff breccias characterize the Mt. Dilworth Formation (Figure 7). This formation represents the climatic and penultimate volcanic event of the Hazelton Group volcanism and forms an important regional marker horizon. The overlying Salmon River Formation has been subdivided in the Iskut area into an Upper Lower Jurassic and a Lower Middle Jurassic member (Anderson and Thorkelson, 1990). The upper member has been further subdivided into three north trending facies belts: the eastern Troy Ridge facies (starved basin), the medial Eskay Creek facies (back-arc basin) and the western Snippaker Mountain facies (volcanic arc).

Sediments of the Bowser Lake Group rest unconformably on the Hazelton Group rocks and they include shales, argillites, silt and mudstones, greywackes and conglomerates. The contact between the Bowser Lake Group and Hazelton Group passes between Strohn Creek in the north and White River in the south. The contact appears to be a thrust zone with the Bowser Lake Group sediment "slices" occurring within and overlying the Hazelton Group pyroclastics to the west.

Two main intrusive episodes occurred in the Stewart area: a Lower Jurassic suite of diorite to granodiorite porphyries (Texas Creek Suite) that are comagmatic with extrusive rocks of the Hazelton Group; and, an Upper Cretaceous to Early Tertiary intrusive complex (Coast Plutonic Complex and satellite intrusions). The early Jurassic suite is characterized by the occurrence of coarse hornblende, orthoclase and plagioclase and phenocrysts and locally potassium feldspar megacrysts. The Eocene Hyder quartz-monzonite, comprising a main batholith, several smaller plugs and a widespread dyke phase, represents the Coast Plutonic Complex.

Middle Cretaceous regional metamorphism (Alldrick et al., 1987) is predominantly of the lower greenschist facies. This metamorphic event seems to be related to compression and concomitant crustal thickening at the Intermontaine - Insular superterrane boundary (Rubin et al. 1990). Biotite hornfels zones are associated with a majority of the quartz monzonite and granodiorite stocks.

7. REGIONAL MINERALIZATION AND EXPLORATION ACTIVITIES:

The Stewart Complex is the setting for the Stewart (Silbak-Premier, Silver Butte, Big Missouri) Iskut (Snip, Johnny Mountain, Eskay Creek) Sulphurets, and Kitsalt (Alice Arm) gold/silver mining camps (Figure 1). Mesothermal to epithermal, depth persistent gold-silver veins form one of the most significant types of economic deposit. There appears to be a spatial as well as a temporal association of gold deposits to Lower Jurassic Calc-alkaline intrusions and volcanic centres. These intrusions are often characterized by 1-2 cm sized, potassium feldspar megacrysts and correspond to the top of the Unuk River Formation.

The most prominent example of this type of mineralization is the historic Silbak-Premier gold-silver mine which has produced 56,000 kg of gold and 1,281,400 kg of silver in its original lifetime from 1918 to 1976. The mine was re-opened by Westmin in 1988 with reserves quoted at 5.9 million tonnes grading 2.16 g Au/t and 80.23 g Ag/t (Randall, 1988). Geological reserves as of January 1, 1992 are reported in Westmin's 1991 Annual report as 418,200 tonnes grading 3.07 g Au/t and 41.60 g Ag/t.

The ore is hosted by Unuk River Formation andesites and comagmatic Texas Creek porphyritic dacite sills and dykes. The ore bodies comprise a series of en echelon lenses which are developed over a strike length of 180 m and through a vertical range of 600 m (Grove, 1986; McDonald, 1988). The mineralization is controlled by northwesterly and northeasterly trending structures and their intersections but also occurs locally concordant with andesitic flows and breccias.

Two main vein types occur: silica-rich, low-sulfide precious metal veins and sulfide-rich base metal veins. The precious metal veins are more prominent in the upper levels of the deposit and contain polybasite, pyrargyrite, argentiferous tetrahedrite, native silver, electrum and argentite. Combined sulfides of pyrite, sphalerite, chalcopyrite and galena are generally less than 5%. The base metal veins crosscut the precious metal veins and increase in abundance with depth. They contain 25 to 45% combined pyrite, sphalerite, chalcopyrite and galena with minor amounts of pyrrhotite, argentiferous tetrahedrite, native silver, electrum and arsenopyrite.

Quartz is the main gangue mineral, with lesser amounts of calcite, barite, and some adularia being present. The mineralization is associated with strong silicification, feldspathization, and pyritization. A temperature range of 250 to 260 degrees C has been determined for the deposition of the base and precious metals (McDonald, 1990).

Middle Eocene silver-lead-zinc veins are characterized by high silver to gold ratios and by spatial association with molybdenum and/or tungsten occurrences. They are structurally controlled and

lie within north, northwest, and east trending faults. This mineralization has been less significant in economic terms.

Porphyry molybdenum deposits are associated with Tertiary Alice Arm Intrusions, a belt of quartz-monzonite intrusions parallel to the eastern margin of the Coast Plutonic Complex. An example of this type of deposit is the B. C. Molybdenum Mine at Lime Creek.

Recent exploration in the Stewart Camp has resulted in the discovery of a number of exiting new deposits. Cominco's Snip Mine commenced production in January of 1991 with reserves of about 927,000 tonnes grading 25.7 g Au/t. Production was scheduled to start in 1991 at 90,000 ounces per year.

Slashing of the right of way for the Eskay Creek road commenced in late August of 1993 with road work scheduled for completion in early 1994. Underground development activities continue with preliminary reserves at the Eskay Creek deposit estimated at 1.1 million tonnes grading 65.5 g Au/t and 2931 g Ag/t.

The Eskay Creek 21A deposit is hosted within Contact Unit carbonaceous mudstone and breccia, as well as the underlying rhyolite breccia. Two styles of mineralization are present. The first is a visually striking assemblage of disseminated to near massive stibnite and realgar within the Contact Unit. The second style occurs in the adjacent footwall rhyolite, and features a stock work style quartz-muscovite-chlorite breccia mineralized with sphalerite, tetrahedrite and pyrite. Highest gold and silver values are obtained where the Contact Unit is thickest and the immediately underlying rhyolite breccia is highly fractured and altered. Drilling has outlined a zone approximately 280 m long, up to 100 m wide and of variable thickness but averaging 10 m.

The Eskay Creek 21B deposit is approximately 900 m long, from 60 to 200 m wide and locally in excess of 40 m thick. Contact Unit mineralization comprises a continuous stratiform sheet of banded high grade gold and silver bearing base metal sulfide layers, from 2 to 12 m thick. Mineralization appears to be bedding parallel. Sulfide minerals present include sphalerite, tetrahedrite, boulangerite, bornite plus minor galena and pyrite. Gold and silver are associated with electrum, which occurs as abundant grains associated with sphalerite. Peripheral and footwall to the banded sulfide mineralization are areas of microfracture, veinlet hosted, disseminated tetrahedrite, pyrite and minor boulangerite mineralization.

Exploration, including surface diamond drilling with six rigs and underground development and diamond drilling, continued in 1994 at Lac Minerals' Red Mountain project. Geological reserves for Red Mountain announced in June this year by Lac prior to the American Barrick takeover were about a million ounces with potential for 5 million ounces of gold (Northern Miner, November 7, 1994). Lac has

been underground on the deposit since March, 1994. The Bitter Creek road has been upgraded and initial work on a tailings pond site and a tramway was initiated.

At Red Mountain the Marc Zone and its northerly extension, the AV Zone, occur as sulfide lenses or cylinders associated with a structural junction and the brecciated contact of the Goldslide Intrusion. The mineralization consists of densely disseminated to massive pyrite and/or pyrite stringers and veinlets and variable amounts of arsenopyrite, tetrahedrite and various tellurides. Several phases of mineralization and deformation are indicated by the presence of different generations of pyrite and breccia fragments consisting of pyrite. High grade gold values are usually associated with the semi-massive, coarse-grained pyrite aggregates, but also with stock work pyrite stringers and veinlets. Gold occurs as native gold, electrum and as tellurides.

8. TODD CREEK PROPERTY GEOLOGY:

The property geology (Grove, 1992; Figures 8A, B) is dominated by the Lower Jurassic Unuk River Formation that hosts most of the significant base and polymetallic mineralization in the Stewart Camp. The rocks are mainly comprised of green and grey-black andesite flows, green, red, purple volcanic breccias, crystal and lithic tuffs and a variety of sediments.

As indicated in Min File Report 104A 001, the rocks may have been intruded by a number of feldspar porphyry bodies, the extent of which remain to be determined. As indicated by the regional total field magnetics (Figure 9), a number of circular magnetic lows in the southern area of the property may reflect such intrusions or zones of alteration. Varying degrees of pervasive alteration have been observed ranging from chlorite-quartz-pyrite to quartz-pyrite-sericite-jarosite/alunite. A spectacular gossan zone, Orange Mountain (Photo 1), composed of iron oxide and clay alteration reported to be associated with a trachyte pile is located on Todd 1 and 2 (Baerg, 1989).

The Unuk River Formation is overlain on the northern part of the property by Middle Jurassic mafic lavas and breccias and a variety of sediments of the Betty Creek Formation. Overlying rhyolite and rhyolite breccia of the Mt. Dilworth Formation is found mainly on the northern part of the property.

As mapped by Grove (Figure 8 A), the property is bordered on the west by a major northeast trending fault that follows American Creek, and partially on the east by a north trending structure. Prominent structural junctions are apparent on the property and the structural fabric trends north-northwest, north-northeast, east-northeast, and east-west. The fabric generally has a vertical dip and appears to control much of the drainage of the area.

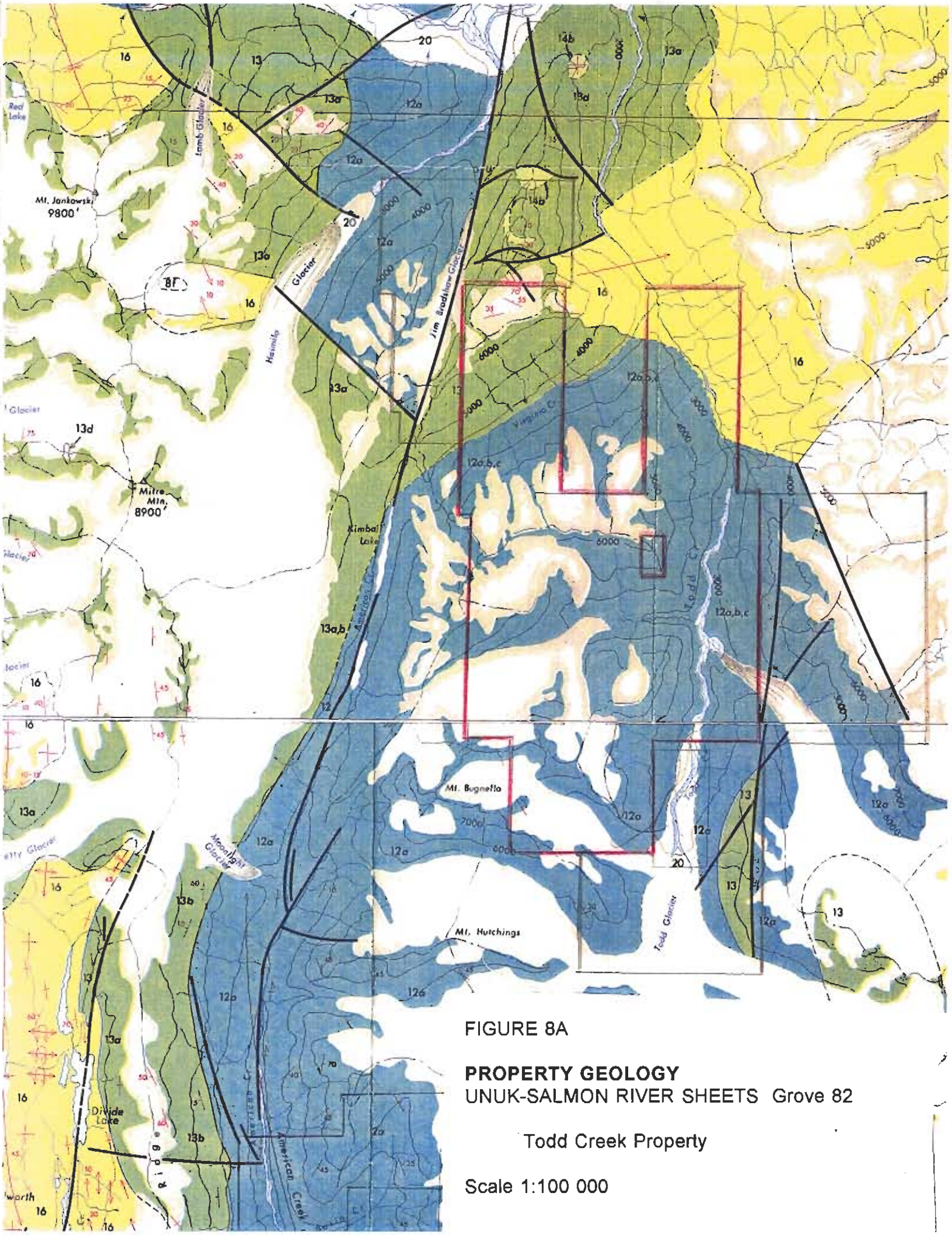

FIGURE 8A

PROPERTY GEOLOGY
UNUK-SALMON RIVER SHEETS Grove 82

Todd Creek Property

Scale 1:100 000

FIGURE 9

AEROMAGNETIC DATA
Bear River Map 9199G
Bowser Lake Map 9200G
NTS 104A4 & 104A5

Todd Creek Property

Scale 1:50000

9. PHASE 1, 1994 EXPLORATION PROGRAM:

The Phase 1, geological, geophysical and geochemical program was carried out intermittently on the Todd Creek property from August 6 to October 10, 1994. The higher elevations remained snow covered for much of July and generated fog that made helicopter access difficult. Fog and rain persisted much of the latter part of August and almost all of September, again inhibiting work. Snow accumulations down to the bottom of Fall Creek Valley late in September and early in October (Photo 5) forced the termination of the program.

General exploration rationale for gold mineralization in the Stewart Camp includes the following parameters: the presence of prospective Unuk River Formation and Lower Jurassic Age intrusions; proximity to volcanic centres; structural junctions and associated alteration; proximal silver-lead-zinc-copper-barite vein mineralization with or without gold; polymetallic, often semi-massive sulfide mineralogy and associated EM conductors and/or IP anomalies; definitive geochemical signatures including potassium, arsenic and zinc; and, a specific alteration package including silicification, sulfidization and brecciation. The target mineralization often transcends a variety of exploration models and includes syngenetic and epigenetic components.

The Phase 1 program totalled approximately $200,000 and exploration expenditures are summarized in Table 2. Field work included a Geonex Aerodat helicopterborne radiometric, conventional EM and gradiometer survey that was so definitive of targets on the Red Mountain property; the aerial reconnaissance of alteration zones and the staking of an additional 11 claims; the review and compilation of historical data; the initial geological and geochemical evaluation of a number of reconnaissance targets (the Amarillo Zone on Orange Mountain, the American Creek Zone in the Virgina Creek Target Area, and the JW Zone); the restoration of Grid A on the North Zone and an initial evaluation of the historical mineralization; the initial evaluation of the Noranda Grid B mineralization on the North Zone; the initial evaluation of the Mid Zone mineralization; and, the establishing of a new, 11 km grid on the North (Grid C), Fall Creek and Ice Creek Zones; and, the carrying out of geological and geochemical surveys as weather conditions allowed.

A total of 665 samples were collected during the Phase 1 program that comprised 365 rock and talus, 121 stream sediment, 138 soil, and 31 check samples (Table 3). Simple statistics are provided by sample area in Table 4. Sample descriptions along with analytical results are shown in Table 5. The analytical certificates are attached in Appendix 1.

The samples were shipped to the Min En preparation facility in

Photo 5: Looking east from Amarillo Hill to alteration zone east of Todd Creek

TABLE 2

SUMMARY OF EXPENDITURES - TODD CREEK PROPERTY

CODE	EXPENSE		$CDN
102	CONTRACTOR SAL & EXPENSES	1 geologist 32 days @ 350/day	16412
107	FEES/BENEFITS & EXPENSES	1 geologist 40 days @ 350/day	14000
107	FEES/BENEFITS & EXPENSES	1 geologist 48 days @ 375/day	18000
108	CONTRACTOR SAL/BENEFITS & EXPENSES	1 field assistant 35 days & 180/day	7522
104	FIELD SUPPLIES		2567
105	COMMUNICATION/RADIO RENTAL		1700
109	ACCOMODATION/FOOD	130 man days @ 23/day	2990
		food	2410
111	MOB/DEMOB	airfare, gas	4160
113	HELICOPTER CHARTER	35 hrs @ 750/hr	26625
115	VEHICLE RENTAL/ALLOWANCE	55 days @ $60/day	3300
116	COMPUTER RENTAL	12 days @ $15/day	820
118	AIRBORNE GEOPHYSICAL SURVEYS	309 line km, 21 tie line km	37586
120	LINECUTTING		16835
127	ASSAYS/ANALYSES	665 samples @ $22/sample	14773
131	COURIER		700
135	COPYING		2000
140	FEES/STAKING/ASSESSMENT FEES		21580
	OFFICE/ADMINISTRATION		6000
	TOTAL		$199,980.00

November 11, 1994

TABLE 3

TODD CREEK PROPERTY - SUMMARY OF SAMPLE TYPE BY TARGET AREA

LOCATION	ROCK SAMPLES	STREAM SAMPLES	SOIL SAMPLES	ROCK CHECK	STREAM CHECK	AREA TOTAL
AMARILLO ZONE	65	25	18	2	3	113
AMERICAN CREEK ZONE	28	10	7	1	1	47
JW ZONE	15	0	0	0	0	15
YELLOW BOWL ZONE	29	12	0	0	0	41
NORTH ZONE						
GRID A	48	0	0	2	0	50
GRID B	21	1		1	0	23
GRID C	29	27	94	3	6	159
FALL CREEK ZONE	27	25	0	2	1	55
ICE CREEK ZONE	110	13	19	5	4	151
RECON *	3	8	0	0	0	11
TOTAL	**375**	**121**	**138**	**16**	**15**	**665**

* not all samples considered in statistics

TABLE 4

SIMPLE STATISTICS

ORANGE MTN. TARGET AREA, AMARILLO ZONE, TODD CREEK PROPERTY
STATISTICS

		Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
ROCK						
	count	65	65	65	65	65
	average	15.78	357.74	363.92	924.74	2562.65
	stdev	17.96	626.07	1577.51	3485.59	16019.50
	minimum	1	1	8	16	19
	maximum	117	2535	12280	23110	130000
STREAM						
	count	25	25	25	25	25
	average	9.56	82.04	107.52	346.48	478.88
	stdev	8.42	156.38	92.13	554.80	297.29
	minimum	2	1	27	76	169
	maximum	36	628	360	2952	1406
SOIL STATS						
	count	18	18	18	18	18
	average	4.44	20.06	78.72	257.89	230.56
	stdev	3.35	56.77	73.75	174.84	132.24
	minimum	1	1	10	55	33
	maximum	13	226	327	695	544

AMERICAN CREEK ZONE, TODD CREEK PROPERTY - STATISTICS

ROCKS						
	Number of samples	28	28	28	28	28
	Average	35.43	17.61	207.11	41.79	96.36
	Standard deviation	63.27	19.17	788.30	37.00	82.89
	Maximum	262	75	4270	186	422
	Minimum	1	1	3	13	13
STREAM SEDIMENTS						
	Number of samples	10	10	10	10	10
	Average	16.3	2.2	39	48.3	108.4
	Standard deviation	24.99	3.6	24.104	13.914	24.101
	Maximum	90	13	106	68	143
	Minimum	2	1	18	31	77
SOILS						
	Number of samples	7	7	7	7	7
	Average	6.57	1	35.429	52.714	109.29
	Standard deviation	4.92	0	12.339	13.791	39.734
	Maximum	17	1	60	78	193
	Minimum	2	1	23	34	70

JW ZONE, TODD CREEK PROPERTY - STATISTICS

TYPE	NAME	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
ROCKS						
	Number of sample	15	15	15	15	15
	Averag	2.53	14.07	13.80	17.20	21.20
	Standard deviatio	2.42	7.56	7.39	6.34	23.99
	Maximu	10	28	34	38	104
	Minimu	1	2	6	11	9

YELLOW BOWL ZONE, TODD CREEK PROPERTY - STATISTICS

		Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
ROCKS						
	count	29	29	29	29	29
	average	166.62	105.14	6002.1	53.793	271.79
	std dev	420.51	226.92	21203	139.06	1260.8
	minimum	1	2	6	3	2
	maximum	1678	1150	98000	745	6940
STREAM SEDIMENTS						
	count	12	12	12	12	12
	average	32.923	0.9231	142.15	30.615	63.923
	std dev	22.231	0.2665	92.279	12.08	25.734
	minimum	0	0	0	0	0
	maximum	68	1	343	45	94

NORTH ZONE, TODD CREEK PROPERTY - STATISTICS

		Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
GRID A						
ROCKS						
	Number of samples	48	48	48	48	48
	Average	1682.52	536.85	3125.2	130.02	466.21
	Standard deviation	4245.44	1199.7	6326.1	248.17	1096.6
	Maximum	22670	7500	31000	1610	5490
	Minimum	1	4	6	14	8
GRID C						
ROCKS						
	Number of samples	29	29	29	29	29
	Average	129.828	262.9	310.48	67.414	90.724
	Standard deviation	284.274	642.07	966.71	107.71	127.16
	Maximum	1310	2900	4200	548	455
	Minimum	1	1	8	6	8
STREAM SEDIMENTS						
	Number of samples	27	27	27	27	27
	Average	33.7037	2.6296	31.037	31.481	72.556
	Standard deviation	65.0121	5.5854	14.408	6.2324	13.065
	Maximum	333	28	84	49	106
	Minimum	1	1	17	21	54
SOILS						
	Number of samples	94	94	94	94	94
	Average	29.8085	1.2128	31.681	37.745	79.787
	Standard deviation	49.7231	1.6169	54.352	6.826	13.375
	Maximum	395	16	549	64	125
	Minimum	1	1	18	26	55
GRID B						
ROCKS						
	Number of samples	21	21	21	21	21
	Average	1777.71	630.1	12648	48.905	123.38
	Standard deviation	1758.99	1069.7	18030	46.355	88.359
	Maximum	5550	5000	60500	195	446
	Minimum	5	9	14	18	58

STREAM SEDIMENTS

Number of samples	1	1	1	1	1
Average	94	1	775	56	113
Standard deviation	0	0	0	0	0
Maximum	94	1	775	56	113
Minimum	94	1	775	56	113

TOTALS FOR ENTIRE NORTH GRID AREA

Number of samples	220	220	220	220	220

FALL CREEK ZONE, TODD CREEK PROPERTY - STATISTICS

		Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
ROCKS						
	Number of sample	27	27	27	27	27
	Averag	95.852	129.56	654.07	25.704	42.519
	Standard deviatio	271.49	362.6	3156.9	18.409	31.988
	Maximu	1420	1925	16750	105	139
	Minimu	1	2	4	9	7
STREAM SEDIMENTS						
	Number of sample	25	25	25	25	25
	Averag	46.32	48.44	49.6	36.76	89.92
	Standard deviatio	66.328	103.5	33.961	31.547	68.243
	Maximu	306	387	115	187	418
	Minimu	2	1	5	15	54
TOTALS						
	Number of sample	52	52	52	52	52

ICE CREEK ZONE, TODD CREEK PROPERTY - STATISTICS

		Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
ROCKS						
	Number of sample	110	110	110	110	110
	Averag	438.12	21.45	1114.24	34.68	111.68
	Standard deviatio	1955.13	28.43	5059.04	58.28	180.30
	Maximu	13180	250	33800	465	1100
	Minimu	1	2	3	4	5
STREAM SEDIMENTS						
	Number of sample	13	13	13	13	13
	Averag	53.46	26.77	68.38	38.92	100.69
	Standard deviatio	86.71	65.28	67.46	15.41	36.02
	Maximu	304	250	270	62	180
	Minimu	1	1	11	16	37
SOILS						
	Number of sample	19	19	19	19	19
	Averag	16.63	2.79	50.95	59.05	135.47
	Standard deviatio	31.35	6.51	48.48	23.03	43.33
	Maximu	143	30	231	107	211
	Minimu	1	1	14	1	45
TOTALS						
	Number of sample	142	142	142	142	142

RECON AREAS, TODD CREEK PROPERTY

Number of samples	6	6	6	6	6
Average	2.67	10.33	17.17	15.33	27.83
Standard deviation	1.80	8.34	9.74	3.94	34.25
Maximum	6	24	34	21	104
Minimum	1	2	6	11	9

TABLE 5

SAMPLE DESCRIPTIONS AND ANALYSES

November 8, 1994

ORANGE MTN. TARGET AREA, AMARILLO ZONE, TODD CREEK PROPERTY
SAMPLE DESCRIPTIONS AND ANALYTICAL RESULTS

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86201	composite 5m		alt'd mafic vol	fr: orngy brn-gry blk, wh: gry-blk, f, sugary, glassy, vuggy with lim; 90% gry-pk qtz, 1-2% ser as needles blebs, 1-2% py, 1-2% fuchsite, 2-3% k-spar, k alt'd, mod lim, mod sil'd	4	14	26	95	52
86203	talus boulder		sil'd vol	fr: gry-wht, wh: yell-orngy-brn, f, sugary, vuggy, veinlets of oxid mat (lim, al-jar); 90% qtz, 2-3%f diss py, 7% oxid mat	5	58	12	32	21
86205	talus boulder		sil'd vol	as 204; more oxid, 3-4% diss py	11	39	15	51	37
86206	talus boulders		sil'd vol	fr: gry-wht-yell, wh: orngy-brn-yell, f, sugary, vuggy; 90% qtz, al-jar patches, to 4% f diss py & sooty py, minor sphal, well fract, al-jar in fract	23	525	329	246	76
86207	talus f 1m		sd	orngy-brn, f-co, qtz, oxid vol (al-jar, lim) sil'd, gry alt'd vol, vuggy mat with oxid sulfs	35	1	142	63	234
86209	rock	115 m from 86201 at 270	alt'd pyroclastic	fr: grn-gry, wh: orngy-brn, al-jar, f, sugary, granular, vuggy, well fract, frags to 8 cm, qtz, 1-2% ser, oxid mat, minor sulf, fract 290	3	25	38	67	68
86211	float	EL 4080	sil'd vol	as 86206, to 10% py	8	86	16	113	49
86212	talus		sil'd vol	fr: gry wht-gry, wh: yell orngy-brn, f, glassy, sugary, vuggy, al-jar; 50% qtz, lenses & coatings of sooty py to 50%, well sil'd matrix	6	2475	14	132	67

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86213	boulder		sil'd vol	fr: gry-grn-wht, wh: orngy-brn-yell, f, sugary, vuggy, lim al-jar on surf & in veinlets, to 7% py f diss & in f stwk, py is bronzy color	6	475	59	185	136
86214	composite 1.5 m		sil'd vol	fr: bleached-gry, wh: orngy-brn grn-gry, f, sugary, glassy, vuggy, oxid, vugs filled with lim oxid py; 90% qtz, 5% ser, 5% py, lim, oxid mat	5	30	17	45	164
86215	composite		sil'd vol	fr: gry-wht, wh: wht-blk-orngy-brn, f, sugary, qtz, f diss py to 8%, oxid, lim, some al-jar	7	33	15	72	45
86216	composite 1.5 m		sil'd vol	fr: gry-wht, wh: orngy-brn, f, sugary, vuggy, blebs filled with oxid sulfs, 2-3% diss py & sooty py sulfs, oxid mat, well fract	5	36	13	225	64
86217	subcrop		sil'd vol	fr: wht-gry, wh: orngy-brn yell wht-gry, vuggy qtz vein & py on edge, vein is brecc, vuggy, vug fillings of sooty py, tr mal, sphal; 80% qtz & sil'd gry matrix, oxid mat, 5-10% py	35	1500	964	459	605
86218	talus		sil'd vol	fr: bleached-gry-wht, wh: orngy-brn, vuggy, f diss py & oxid sulfs, fracts above with strike of 245; 80% qtz, 10% oxid mat, well lim, 5% grn chl, 5% sulfs & oxid sulfs, al-jar on internal fracts	3	25	55	51	65
86219	talus f	by 86218	sd	sd TD14	4	1	67	180	238
86220	composite 1 m		sil'd sulf'd vol	fr: gry-wht, wh: bleached orngy-brn, f, sil'd, sugary, vuggy; 60% lenses of sooty py, vuggy patches, pods sooty py, 40% qtz, shear 160, strike 140	22	2300	75	2150	1045
86221	composite	EL 4200	alt'd pyroclastic	fr: orngy-brn-wht, wh: gry-blk, f. sil'd, gran-sugary, some vuggy tex, frags to 15 cm, some well bleached, with varied oxid, lim, frags are brecc'd, qtz-frags of varying comp	2	37	34	49	99
86223	composite	5 m N & 5 m E of 86222; EL 4240	alt'd vol	fr: grn-gry, wh: orngy brn-blk wht, f, sugary, 3-4% py, qtz, oxid mat, well fract 150/330 dip 48N, sheared, some places by shear well chl	29	64	84	124	226
86224	composite	EL 4260	barite vein	fr: wht-gry, wh: orngy-brn-red, f, sugary, very heavy, 90% barite, 5% oxid mat, 2-3% sulfs, 1-2% diss of gal & along fracts, well	1	13	11	977	151

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				fract with oxid (hem, lim) in fract, py diss blebs & veins, sphal diss blebs & veins					
86226	composite		alt'd sil'd vol	fr: gry-wht, wh: orngy-brn-yell, f, v sugary, vuggy with sulfs; 90% gry qtz, 5% diss sulfs, well lim, al-jar, 5% oxid mat, minor barite veins along fractures	3	725	30	133	100
86227	composite		barite vein 15 cm wide	fr: gry-wht, wh: orngy-brn-gry-wht, f, sugary, breccd, vitreous luster, blebs veins of gal in veins of barite; 75-90% barite, 10-25% gal	2	22	58	23110	1565
86228	rock		alt'd vol	fr: grn-gry, wh: orngy-brn, vuggy, sugary, well fract (oxid lim, al-jar), suh py, sooty py, massive py; 80% qtz, 10% barite, 5% sulfs, 5% py	1	450	35	97	76
86229	talus		brecc'd barite	fr: gry-grn-wht, wh: orngy-brn, coarse, laths of barite, vitreous, vuggy oxid sulfs (lim, hem); 60% barite -barite veins, 15% patches chl & stringers, 10% oxid mat (lim, hem), 10% qtz, 2-3% diss py	6	25	110	426	286
86230	talus		brecc'd barite	as 86229; up to 80% lg barite laths, 6 cm long, wk-str oxid (al-jar, lim, hem), minor diss of gal, 2-3% py in vugs, some massive barite, Mn stain	26	36	410	354	423
86232	boulder	30 m up from 86230	barite breccia	brn, barite stwk cementing sil'd gry qtz frags, up to 5% py, oxid mat	11	118	31	77	76
86233	boulder composite		alt'd vol	fr: gry-wht, wh: orngy brn & yell vug fillings, sugary, vuggy, well fract, vugs & fract filled & coated with al-jar, 90% sugary qtz, 5% sulfs, f diss py, oxid mat, well sil'd matrix	13	375	59	666	675
86235	composite 3 m		alt'd vol	fr: gry, wh: yell-gry-brn, f, well sil'd, well fract; 90% qtz, 5% f diss py, 5% oxid mat, Mn stain	5	90	18	88	49
86237	talus	EL 4520	pyroclastic	fr: gry-wht, wh: yell-orng-brn, f, sugary, ang frags of al-jar talus, vuggy, porous, bleached wht; 80% qtz, 10% barite, 5% oxid mat, 2-3% diss py	13	250	53	599	1240
86238	outcrop	EL 4520	pyroclastic	fr: grn-gry-yell, wh: orngy-brn, f, well lim, well fract, f gry-wht qtz; 90% qtz, oxid mat, veins veinlets of barite, 2-3% py as diss along fract	34	37	40	132	131
86239	outcrop		alt'd vol	fr: gry-wht, wh: yell-orng, f, sugary,	5	69	33	59	190

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	1 m comp			v sil'd, well fract, well lim & al-jar stained on fracts; 90% qtz, 5% oxid mat, 3-4% diss py, minor stringers of barite					
86240	talus	at 86239	alt'd vol	fr: gry-wht, wh: orngy-brn, f, vitreous, bar, laths, vuggy with gal, hem in vugs, well fract, py in vugs; 80% barite, oxid mat, to 4% gal, py	9	28	35	2445	1230
86241	subcrop		alt'd vol	fr: gry-wht, wh: yell-brn, well sil'd, well fract & vuggy; 80% qtz, to 3-4% diss py, al-jar on surf, lenses & veins of barite	10	112	16	137	90
86242	subcrop		alt'd vol & massive bar	lim on surf with al-jar coatings, vugs, & diss throughout, up to 10% py as lenses, sooty py, 4-5% barite	14	100	14	83	59
86243	talus f	EL 4500	silt-grav	orng-brn, silt-pebs, ang pebs of vol with al-jar, 4% organics	34	1232	82	1052	81
86244	talus f	EL 4500	silt-grav	as 86243; 5% organics	24	1176	95	603	103
86245	composite	at 86246 EL 4260	alt'd porphy vol	fr: gry-wht, wh: orngy-brn-yell, f, sugary qtz, porphy, wht qtz phenos in blu-gry sil'd matrix, 12% diss py	11	27	33	97	218
86247	rock		barite vein	fr: gry-blk, wh: orngy-brn, f, wht barite matrix; 8% sphal patches, 3% gal diss & blebs 2-3% cpy diss & blebs, py f diss & in veins, 1-2% barite, tr mal, lim on surf, strike 340	16	38	12280	17030	130000
86248	rock	at 86247	sil'd vol	fr: orngy-brn-yell-grn, wh: orngy-brn, f, gran, well fract, al-jar on fract, 8% diss py, vug filling	21	99	90	476	493
86250	rock		check	check	8	12	12	24	40
86251	rock	host 896252	barite vein	fr: gry-wht, wh: orngy-brn-yell, mod oxid lim, fract surf (al-jar) vuggy, host-wht, f, barite veinlets with f py, cpy & sphal & minor gal, sulfs to 20% in rock, 20% py diss & veins, 1% cpy blebs & diss, tr sphal & tr gal diss & veins	117	70	2445	2040	6830
86252	composite	1 m up stream	alt'd vol porphy	fr: grn-gry, wh: orngy-brn, f, gry qtz matrix, porphy qtz phenos, 12% f sooty py, barite veins to 0.5 cm	38	109	130	178	150
86258	talus	5 m up stream	barite	fr: gry-wht-grn, wh: orngy-brn-yell, well lim on wh with al-jar, lim, f, sugary, gry qtz brec & fuch as diss, 2-3% f diss py,	9	875	31	879	48

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				80% barite, 10% qtz as brecc frags, tr gal					
86259	talus f	below 86261	H sd-grav	orngy-brn, f-pebs; 60% sd, 40% ang frags & pebs of 261 & 260, well lim, bleached on fr, al-jar	14	1	75	187	153
86260	composite 3 m		alt'd vol	as 86261; well fract & sheared, brecc'd, 2-3% py, more bleached, oxid & sheared	7	49	12	65	40
86261	composite 4 m		sulf'd vol	fr: gry-wht, wh: orngy brn-yell, f, well fract with lim, al-jar, brecc'd frags to 15 cm; 80% qtz, 20% oxid mat, to 7% py as coatings & diss, blebs & diss barite, mod sil'd	13	88	32	66	64
86262	composite 2 m		alt'd vol	fr: gry-wht, wh: orngy brn-yell, al-jar on fracts & as vug fillings, f, sugary; 85% qtz, 3-4% py, oxid mat, well fract with vugs to 20 cm	10	119	8	83	94
86263	composite talus block	EL 4380	alt'd vol	fr: brn-gry-blk, wh: orng-yell brn, f, sugary, well fract, oxid mat along fract, veins & veinlets to 1 cm of barite; 80% gry qtz, to 15% barite, sil'd matrix with 3-4% py	64	350	440	562	11500
86264	talus		sulf'd vol	fr: gry-wht-blu, wh: yell, f, sugary, sil'd matrix, vuggy on wh, al-jar; 75% well fract qtz, to 15% sooty py as coatings & lenses, to 10% barite as lenses & veinlets	6	1700	22	80	63
86265	composite 1 m		sil'd vol with barite	fr: grn gry-wht, wh: orngy brn-gry blk, f, sugary; 80% qtz, 10% oxid mat & stringers & blebs barite, oxid sulfs in barite, brecc'd	29	116	126	102	187
86267	composite 3 m		alt'd pyroclastic	fr: grn-gry, wh: orngy brn-gry blk, f, well fract, mod brecc'd, wh feld, grn vol, barite frags to 15 cm, veins & lenses barite; 70% frags, 20% oxid mat, 10% barite veinlets, Mn, lim, fine sil'd	55	400	93	110	170
86268	talus	8 m below 267 EL 4340	H sd-grav	brn, co-pebs; 50% ang frags (oxid, al-jar, lim, bleached, hem, barite, grn gry vol), 50% brn oxid sd	5	325	52	171	240
86269	rock		check		10	100	28	149	124
86270	composite 1.5 m		sil'd oxid vol	orng-brn-yell, f, vuggy, gry sil'd matrix, to 5% as veins & lenses, well lim, tr hem, mod al-jar, <1% py	20	450	29	212	108

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86271	talus f	5 m below 270	H sd	orngy-brn, f-co; 95% oxid sd (lim, al-jar, ang sil'd frags with sil'd matrix)	24	2132	64	293	166
86272	composite 3 m	cont to S of 86271	H sd	as 86271; up to 5% sulfs f diss, al-jar in fracts, minor barite	11	118	22	85	32
86274	talus f		sd-grav	brn, f-pebs; 70% oxid frags (al-jar, lim, ald'd sil'd vol), 30% f silt	5	47	30	158	138
86276	talus f		sd-grav	as 86274; orngy-brn; 50% silt & sd, 50% frags	11	1	78	342	239
86277	composite 3 m		alt'd pyroclastic	fr: wht, wh: orngy-brn-yell, vuggy, bleached frags, ang to 20 cm, barite vein & stwk, 3-4% diss py	17	90	31	39	271
86278	talus	EL 4300	silt-grav	yell-brn, silt-pebs; 60% pebs (yell brn), 40% silt, 1-2% diss py	24	2535	155	533	457
86279	composite 1 m	above 278	sil'd pyroclastic	fr: gry-wht, wh: orngy-yell brn, well sil'd, 1-2% diss sulfs, fract with oxid mat, al-jar	7	625	23	78	124
86281	composite 2 m		sil'd vol	fr: gry-wht, wh: orngy-brn, v f, sugary, well sil'd, fract 50°, bleached & well brecc'd locally, 2% f diss py, fract with al-jar, lim, qtz veins to 0.5 cm, frags to 10 cm	2	112	106	63	48
86283	composite 1 m		sil'd vol	fr: gry-wht, wh: yell-brn, f, sugary, gry, sil'd matrix, fuch; 1% f diss py, 5% barite stwk not well dev	1	8	12	17	19
86284	subcrop composite		brecc vein in sil'd vol	fr: brn-wht, wh: orng brn-grn, 8 cm brecc vein, vuggy, barite & qtz, stwk & blebs of barite, mal along veins & vugs with barite, f, sil'd, matrix & diss mal, 6-7% py along veins	16	30	3400	16	96
86285	composite 3 m	EL 3920	sil'd vol	fr: yell-gry, wh: orngy-blk brn, f, sugary, well sil'd matrix, oxid mat, al-jar, lim, Mn stain, well fract al-jar on fracts; to 2% f diss py, str at 40°	3	36	30	111	203
86290	composite of talus	by 86288	sil'd vol	fr: gry-wht, wh: dk red grn-yell, f, sugary; 80% qtz, 10% oxid mat, 6-7% f diss py, ser, al-jar on fracts, sil'd	6	23	29	76	119
86291	composite 2 m		sil'd vol	fr: yell-gry-wht, wh: yell-orngy-brn; 90% qtz, 1-2% diss py, sil'd, well fract, al-jar	13	28	23	49	66

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				on fracts					
86293	composite 1 m		qtz barite vein	fr: gry-wht, wh: orngy brn, vuggy, glassy, sugary, gry qtz, wht barite, well lim on fract; 3-4% diss py, brn ankerite, tr cpy	27	70	649	533	4420

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	STREAM SAMPLES								
86202	stream		H sd-grav	orngy-brn, f-pebs, poor sort; 60% ang frags of oxid (lim, sil'd, Al-Ja), wht-grn qtz, minor feld, fract 140/320, 40% sd	13	1	205	477	686
86204	stream		grav	orngy-brn, ang frags of oxid (lim, al-jar); qtz, andesite, minor feld	13	1	360	518	943
86208	stream		sd-grav	orngy-brn, f-pebs, poor sort, ang oxid frags (al-jar, lim) sil'd matrix, f diss py	11	1	137	426	589
86210	stream	in pond	clay-sd	brn, f-co, well sort; 50% clay, 50% ang frags of qtz, gry-grn vol, oxid mat	8	1	49	133	504
86222	dry stream		sd-grav	orngy-brn, f-pebs, poor sort, 90% frags of grn-gry vol, oxid mat with al-jar, wht & grn qtz, chl mat, 10% fines	14	1	186	514	912
86225	stream		check		2	1	16	91	201
86231	stream	25 m at 270 from I86229	H sd	brn, f-co; 50% fine (qtz, oxid mat), 50% ang coarse, oxid mat, grn-gry vol, al-jar on frags, barite, qtz	16	1	254	460	1406
86234	stream		H sd-grav	brn, f-pebs, ang frags of alt'd sil'd vol, al-jar, lim, grn-gry vol, wht barite, grn qtz, pk cherty (K-spar) mat	6	99	79	193	573
86236	stream		clay loam-grav	orngy-brn, clay-pebs; 70% clay silt, 30% pebs with al-jar, f sil'd qtz with py & vol	36	628	279	2952	657
86246	stream	EL 4288	H sd-grav	f-co, poor sort; 80% pebs (20% barite, 50% al-jar coated sil'd gry matrix, 30% lim), 20% sd (oxid mat, wht barite, grn vol, al-jar abundant)	3	76	33	95	256
86249	stream		H sd-grav	orngy-yell-brn, f-pebs, poor sort, 80% pebs of oxid sil'd bleached ang frags of alt'd vol, barite, gry vol, oxid sulfs, 20% co sd	7	57	47	104	316
86253	stream	EL 4200	H sd-grav	brn, f-co; 80% pebs (oxid frags, lim, al-jar, sil'd gry matrix, 1-2% py, fuchsite, grn vol, gry vol), 20% (as pebs & wht barite, qtz)	6	55	34	80	250
86254	stream	EL 4240		as 86253	4	60	35	87	236
86255	stream	EL 4240	H sd-grav	orngy-brn, f-co; 90% H sd-grav, ang frags grn vol, wh barite, oxid angular, 10% oxid	3	53	32	84	209

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				sd					
86256	stream		H sd	brn, f-co, poor sort; 60% oxid frags, grn vol, 40% oxid sd, lim, al-jar	14	1	105	273	543
86257	stream		H grav	orngy-brn-yell, co-pebs, poor sort; 100% ang bleached, sil'd, lim, grn vol	4	58	27	76	235
86266	stream		H sd	brn, f-co; 80% oxid mat sd, 20% ang frags of altd grn vol, oxid, sil'd	21	1	88	368	169
86273	stream	S of 86272	clay-sd	brn, clay-f; 80% clay, 20% f sd, oxid mat	29	1	264	539	899
86275	stream		check		2	33	18	61	180
86280	stream	below 278	clay-grav	pink-brn, clay-pebs; 60% oxid clay-sd (comp of 86278 rock), 40% pebs (oxid, sil'd wh matrix, al-jar)	6	575	83	254	302
86282	stream	at 86281	H sd-grav	orngy-brn, f-pebs; 70% pebs (ang frags of gry-grn vol, oxid mat, al-jar), 10% f sd	4	68	64	133	389
86286	stream		H grav	orngy brn, co-pebs; 98% ang frags of oxid (lim) mat (sil'd grn matrix (py, jar), grn qtz, gry grn vol, barite, wht qtz, minor gry met), 2% fines	2	75	63	155	346
86287	stream	EL 3900	H grav	as 86286	3	56	60	231	501
86288	stream		H sd-grav	f-pebs; 80% ang oxid frag (lim, gry vol, feld porphy, wht barite, minor fuch), 20% sd (f qtz)	3	40	65	150	344
86289	stream	EL 3920	H sd-grav	orngy brn, f-pebs, poor sort; 85% pebs (oxid sil'd vol, grn gry vol, al-jar, lim, hem, 3-4% wht barite), 15% f qtz sd	6	26	52	100	261
86292	stream	EL 3980	H sd-grav	as 86289	5	41	38	108	228
86294	stream	EL 4040	H sd	brn, f-co, well sort; 60% f, 40% pebs (al-jar, oxid vol, barite, qtz)	2	75	49	152	218

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86417	composite 4 m		ser schist Type 1	f, sugary, porphy tex, al-jar, str 55/W, 60% ser, 30% qtz, 10% f diss sulfs, lim, blebs of cal, 2-3% al-jar	2	6	3	4	5
86418	composite 3 m		alt'd pyroclastic Type 1	fr: gry-grn yell, wh: orngy-brn, f, 90% qtz, ser, grn porphy blasts of fuch, well lim on fract, 6-7% py as diss, blebs of hem, well oxid, to 5% chl along fract	17	5	110	14	18
86419	composite 3 m		alt'd pyroclastic Type 1	fr: grn-gry buff brn-wht, wh: orngy-gry-blk, f, sil'd, sugary matrix of qtz; 6% blebs & diss & veins of cal (some porphy tex, vuggy on fr & wh, filled with lim), 10% f diss py, tr cpy, 80% qtz, 4% oxid mat (lim)	26	250	87	27	61
86420	chip 4 m		chl schist Type 1	fr: grn-gry yell-blk, wh: orngy-brn-wht, f, vuggy, earthy, greasy, chl schist, to 1-2% diss py, well oxid, well sheared, wk lim, al-jar, Mn stain, qtz along fract	3	33	26	39	99
86421	chip 2.5 m		ser schist Type 1	fr: gry-wht, wh: orngy-brn, vuggy, earthy, well lim on wh, well fract, lim on fract, al-jar, stwk of lim & qtz; to 5% diss py, veins & diss of cal, well sil'd locally, 80% qtz ser, 20% oxid mat, diss sulfs, wk-str car	22	37	100	32	1075
86422	chip 2.5 m	contig to 86421 at 250	ser schist	as 86421; more sil'd, less ser'd, chl on fract, py to 6-7%, hem as blebs & diss	11	26	76	24	338
86424	chip 4 m	contig to 86422 at 250	alt'd pyroclastic	as 86422; al-jar, well fract with lim, 90% ser & qtz, 6-7% py, porphy tex with wh phenos of cal, feld	25	18	171	46	144
86425	rock		check 2		1	25	10	201	469
86426	chip 3 m	contig to 86424 at 250	alt'd pyroclastic Type 1	as 86424; patches veinlets cal to 5%, Mn stain, well lim	20	15	87	27	221
86427	chip 4 m	contig to 86426 at 250	alt'd pyroclastic Type 1	orngy-brn, well oxid (lim), 80% qtz ser, chl on fract, 15-20% oxid mat, 5% diss py, earthy, vuggy on wh, sugary, less carb	42	23	493	26	450
86428	composite 3 m	EL 5160	pyroclastic Type 1	fr: gry-wht, wh: orngy brn-gry blk, well lim, Mn stain, minor al-jar, f, vitreous, gran to vuggy, earthy on surfs; 60% qtz, sul'd frags of gry qtz, 5% diss f py, 40% ser, oxid mat, sulfs	2	33	19	32	85
86429	composite 2 m	contig to 86428	pyroclastic Type 1	as 86428; 70% qtz, oxid mat, 20% ser schist, chl to 5% on surfs, 5% ser, 5% f diss py, tr cpy, c/w slickenslide surf	2	29	24	27	105

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86430	composite 2 m	up hill 30 m	pyroclastic Type 1 & 2	fr: gry wh, wh: orngy-brn, f, gran, sugary, vitreous, well lim on surf, al-jar, Mn stain; 70% gry qtz (some porphy - feld porphy) in sil'd matrix, wk carb, 30% ser schist, 3% diss py, tr cpy, 30 cm wide shear 120	3	10	13	23	17
86431	composite 3 m	contig to 86430 at 10 deg	pyroclastic Type 1	fr: gry-wht, wh: orngy brn-yell; well fract 120/45NE, shear 144/30N; 50% ser schist, well lim, 40% qtz (well sil'd, f, vitreous, sugary), 10% oxid earthy, vuggy to 5% diss py, tr cpy	1	11	8	18	13
86432		contig to 86431 at 80 deg	pyroclastic Type 1	as 86431; 60% ser schist	4	9	10	21	24
86433	composite 1.5 m	contig to 86432	pyroclastic Type 1	as 86431	1	10	12	23	44
86434	composite 4 m	30 m from 86429 at 20 deg	pyroclastic Type 1	fr: grn-gry-wht, wh: orngy brn-yell-blk, vuggy, earthy, f; 30% ser schist, 60% grn-gry qtz well sil'd & lim, 5% v f diss py, 5% oxid mat & clay, porphy with gry phenos of qtz, tr fuch, al-jar on all surfs	2	13	24	21	56
86435	composite 3 m	EL 5200	pyroclastic Type 2	fr: orngy-brn gry-grn-bl, wh: same, f, gran, sugary, vuggy, earthy, well sheared, chl & lim on shear, H frags (feld porphy, oxid mat), cut by wht qtz cal stringers to 0.5 cm; 70% qtz, 10% oxid mat, 10% chl, 3% sulfs, 7% cal	2	6	10	26	120
86436	composite 5 m	5 m from 86435 at 240 deg	pyroclastic Type 2	as 86435; 20% chl schist	3	20	14	62	69
86437	panel 1 m	2 m from 86436 at 220 deg	pyroclastic Type 2	fr: grn-gry, wh: ongy-brn-blk, f, vitreous, sugary, vuggy, earthy on surf, lim & Mn on surf, sil'd frags in chl matrix, well sheared; 60% qtz, 15% chl, 15% oxid mat, 2-3% diss py, 7% ser schist	1	14	13	465	1100
86438	composite 4 m	EL 5180 contig to 86437	pyroclastic Type 1 & 2	fr: gry-grn-wht, wh: orngy brn-blk, porphy, f, granular, vuggy, well sheared, phenos of qtz; 70% qtz, 35% oxid amt, ser schist, 5% diss py, 2-3% chl, lim on shears	1	11	11	59	526
86439		EL 5180	pyroclastic Type 1	fr: gry-grn-wht, wh: orngy-brn-bl, f, gran, earthy, vuggy, well lim with Mn stain; 80% gry qtz, 20% ser schist, oxid mat, 2-3% diss py, well sheared, minor al-jar with ser schist	2	20	8	193	445

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86440	rock		check 2		9	5	9	19	22
86441	composite 2 m	same o/c as 86439	pyroclastic Type 1	fr: gry-grn-wht, wh: orngy-brn-bl, f, gran, earthy, vuggy, well lim with Mn stain; 80% gry qtz, 20% ser schist, oxid mat, 4% diss py, well sheared, minor al-jar with ser schist, lenses of wht cal to 3 cm & stringers	2	14	27	26	35
86444	composite 2 m	EL 5140	pyroclastic Type 1	fr: grn-gry, wh: orngy-brn gry-blk, mal stain, f, sugary; 80% qtz, ser, ser schist, 2-3% mal stains, 1-2% cpy as veinlets, diss to 3% diss py, tr sphal	1620	17	4600	28	248
86445	composite 1 m	4 m NE of 86444	pyroclastic Type 1 & 2	fr: grn-gry, wh: ongy brn-blk, f, well sil'd on fr, 1-2% diss py, minor cal phenos, well sheared, 20% chl schist, 70% qtz, 10% oxid mat & sulfs, tr cpy, trend 150	5	24	33	41	95
86446	composite 2 m	contig to S of 86444	pyroclastic Type 1	fr: gry-grn, wh: ongy-brn, f, sugary, well sil'd, well lim; 60% qtz, ser, ser schist, 20% oxid mat (lim, al-jar), 5% diss py, diss al-jar, well fract	189	23	382	21	75
86447	composite 0.3 m		pyroclastic Type 1	as 86444; qtz, ser schist, chl on fract, 2-3% diss cpy as blebs & diss, 2% py	10.04 g/tonne	16	2.369%	36	256
86448	composite 2 m	contig to 86446 at 260 deg	pyroclastic Type 1	well sil'd, well lim, sil'd frags to 20 cm, oxid sil'd matrix, to 4% diss py, 80% qtz, ser	250	18	783	21	112
86449	composite 1 m	contig to 86448	pyroclastic Type 1	chl, ser schist matrix, well lim, Mn stain, 70% schist, 25% qtz, to 3-4% diss py	18	16	61	20	92
86450	rock		check 2		7	19	18	206	459
86453	composite 3 m		pyroclastic Type 1	H frags to 15 cm (porphy), 90% qtz, ser, 5% diss py, oxid mat, lim	8	11	39	32	71
86454	composite 4 m	5 m from 86453 at 30 deg	pyroclastic Type 1	80% qtz, ser, ser schist, to 5% diss py, schistose, ser along shears, tr al-jar, 10% oxid mat, tr cpy	6	25	12	16	18
86456	composite 0.5 m	20153N 19600E	alt'd pyroclastic Type 2	fr: grn-gry, wh: orngy-brn gry-blk, f, sil'd frags, chl sil'd matrix, slickenslide on fract surface; 80% qtz (veins to 1 cm, f, sugary), 10% chl-greasy, mod lim, vuggy, str sil'd, 2-3% sulfs	2	12	8	23	73

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86457	composite 0.5 m X 0.5 m		pyroclastic Type 1	f, greasy, earthy, vuggy; 80% chl schist, 20% oxid mat, clay, str lim, al-jar, oxid sulfs	3	23	31	65	205
86458		contig to 86457	pyroclastic Type 2	as 86457; wk lim, less sheared, less sulf'd, 15 cm frags, 10% chl, 1-2% diss py, wk carb'd, wk lim	1	20	26	374	503
86459	composite 2 m	EL 5180	pyroclastic patchy Type 1 in Type 2	orngy-brn to gry-grn, shear 184/72W, schistose to clay, oxid sulfs	6	34	27	29	74
86460	composite 2 m	19605N 20195E	pyroclastic Type 1	fr: grn-gry, wh: orngy-brn, f, vuggy, earthy, well sheared; 40% ser schist, 40% qtz, 10% chl on shears, 2-3% diss py, al-jar on wh surfs	4	14	12	39	62
86463	talus		pyroclastic Type 1	5% diss py, 90% qtz, 5% oxid mat	6	13	30	22	103
86465	composite 2 m		pyroclastic Type 1 Type 2	ser, qtz, jar, lim on surf, tr sulfs, 90% ser, qtz, str sil'd, well fract, mod lim buff brn-gry blk, chl on fract, wk lim, mod sil'd, sugary qtz, vuggy oxid sulfs, to 10% chl on fracts	5	46	13	23	27
86467	talus	19700N 20225E	pyroclastic Type 1	80% qtz, 20% ser, oxid mat, 1-2% diss py	6	6	14	11	10
86472	panel 2 m X 1 m	EL 5060	pyroclastic Type 1 Type 2	fr: gry-wht, wh: orngy brn-yell, f, sugary, 2-3% diss py, 80% qtz, 20% ser, oxid mat mod lim, mod sil'd, chl, oxid mat, 1% diss py	675	10	982	9	18
86474	panel 2 m X 1 m	EL 5060	pyroclastic Type 1 Type 2	fr: gry-wht, wh: orngy brn-yell, f, sugary, 2-3% diss py, 80% qtz, 20% ser, oxid mat mod lim, mod sil'd, chl, oxid mat, 1% diss py	12	9	24	14	23
86475A	rock		check 2		5	22	9	195	442
86476	composite 2m	19680N 20100E contig to 86474	pyroclastic Type 1	phenos of gry-wht qtz in f gry sil'd matrix, 1-2% f diss py	30	30	15	14	31
86477	composite 3 m	2 m W os 86476 EL 5000	pyroclastic Type 1	as 86476; frags, ser schist on salvages, to 15 cm	19	14	20	15	57
86478	composite 3 m	contig to W of 86477	pyroclastic Type 1-2	to 5% diss py in f sil'd ser matrix	63	25	29	13	76

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86479	composite 3 m	El 5000	pyroclastic Type 1	90% qtz ser schist, 4% diss py, 6% oxid mat (lim, al-jar)	417	9	309	16	50
86480	composite 2.5 m		pyroclastic Type 1	shear 120/vert, 90% qtz ser, to 10% diss py	20	8	20	12	35
86481	composite 3 m		pyroclastic Type 1	as 86480; 30% qtz-ser schist	500	13	96	11	44
86482	composite 2 m	EL 5020	pyroclastic Type 2	shear 120/vert, str sil'd, 2-3% py, mod lim, 90% qtz	26	7	13	14	69
86483	composite 4 m		pyroclastic Type 1	shear 120/vert, str sil'd, 2-3% py, mod lim, 90% qtz, porphy tex, phenos of wht qtz, feld tr cpy, str lim	35	17	119	10	48
86484	composite 5 m	El 5000 contig to 86483	pyroclastic Type 1	shear 120/vert, str sil'd, 2-3% py, mod lim, 90% qtz, porphy tex, phenos of wht qtz, tr cpy, str lim	16	8	17	10	26
86486	float	at 86485	pyroclastic Type 1	as 86484; 2-3% diss py, well lim, 90% qtz	108	50	20	18	26
86488	composite 4 m	up hill 1 m from 86487	pyroclastic Type 1	3-4% diss py, tr mal, 80% qtz, ser, 20% oxid mat, 4-5% py locally, 10% al-jar, Mn stain, vuggy, earthy, f, sugary matrix	1	11	19	14	12
86490	composite	2 m E of 86489	pyroclastic Type 1 & 2	fr: grn-gry, wh; orngy-brn, f; 90% qtz, porphy wht qtz phenos, 3-4% diss py	1	12	7	12	24
86492	composite 3 m	19690N 20180E EL 5160	pyroclastic Type 1	fr: gry-wht, wh: orngy-brn, well lim, earthy vuggy, vugs with euh qtz crystals, tr al-jar, qtz vein mat, minor diss sulfs, 90% qtz ser, qtz veins to 0.5 cm, 10% oxid mat, brecc'd	4	5	10	12	6
86493	composite 2 m		pyroclastic Type 1	fr: gry-wht, wh: orngy-brn, well lim, earthy vuggy, euh qtz crystals, tr al-jar, brecc'd, qtz vein mat, minor diss sulfs, 90% qtz ser, qtz veins to 0.5 cm, 10% oxid mat	3	12	9	15	18
86494	boulder	19635N 20100E	pyroclastic Type 1	fr: gry wht-grn gry, wh: orngy brn-gry wht, f, well sil'd, mal stain, wht qtz veins, porphy, 2-3% cpy as blebs, diss & veins, bornite, py, 5-7% diss sulfs, 90% qtz, 3% oxid mat & sulfs, Cu minerals as blebs, diss & in vugs	314	9	8130	9	17
86495	subcrop	by 86494	brecc'd qtz vein	as 86494	181	8	1305	12	18
86496	grab	19675N 20105E	pyroclastic Type 1	90% qtz, carb to 1 cm wide, 5% sulfs, 5% oxid mat, al-jar	22	6	47	11	15

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	SOIL SAMPLES								
TD1-1	soil 15"		clay-sd	grn, clay-co; 70% brn clay, f, qtz sd, oxid mat, frags of ang pebs (as 86201)	1	1	22	96	73
TD1-2	soil		clay-silt	brn, clay loam,	3	1	10	55	33
TD1-3	soil		clay-sd	brn clay-co; 40% clay, 40% organics, 20% sd (ang co, red brn, lim, alt'd vol)	13	1	98	439	220
TD1-4	soil 6"	EL 3960	clay-sd	orngy-brn, clay-co; 60% clay (well lim), 40% ang oxid frags of alt'd vol	9	226	30	315	242
TD1-5	soil		clay-sd	brn, clay-f; 50% clay loam, 40% oxid frags of str lim vol, qtz, 10% organics	6	1	108	695	370
TD1-6	soil 4"		clay loam	brn clay-co; 50% organics, 30% clay loam, 20% oxid bedrock, vol, lim, tr al-jar	5	119	56	332	302
TD1-7	soil 12"	EL 3960	clay-sd	orngy brn, clay-co; 70% brn clay, 30% ang frags (well lim, vol, tr al-jar, f, sil'd)	3	1	113	253	323
TD1-8	soil	at 86213	silt-sd	orngy-brn, silt-f; 70% f oxid qtz sd (lim), 20% ang frags (qtz, oxid lim vol, al-jar), 10% organics	2	1	185	355	544
TD1-9	soil 8"		silt-sd	as TD1-8	9	1	76	92	143
TD1-10	soil 12"	EL 4140	clay-silt	brn, clay loam, 2-3% frags of alt'd vol, oxid	7	1	327	501	380
TD1-11	soil 10"		clay-sd	gry brn, clay-co; 80% sd, 20% frags of oxid vol (lim, friable), qtz, grn vol	4	1	102	94	301
TD1-12	soil 12"		clay-sd	brn clay-f; 60% clay, 40% f qtz sd, oxid frags of vol, well dev soil	1	1	46	80	112
TD1-13	soil 12"		clay-sd	gry-brn, clay-co; 70% clay, 30% ang friable lim frags	1	1	30	210	68
TD1-14	soil 12"	EL 4140	sd	orngy brn, f-co, f qtz, gry grn oxid vol frags, cherty sil'd frags, bleached wht mat	1	1	29	117	113
TD1-15	soil 12"		sd	orngy-brn, f-co; 70% sd (qtz, oxid), 30% frags (ang, oxid, lim)	3	1	46	247	258
TD1-16	soil		clay-sd	orngy-brn, clay-co; 70% clay, 30% ang bleached frags to 3 cm (well lim)	1	1	28	114	263
TD1-17	soil		check	stream sed material	1	1	15	66	193

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
TD1-18	soil 8"		sd	orngy-brn, f-co; 80% sd (qtz), 20% oxid friable frags of alt'd vol, al-jar, lim, qtz	4	1	39	175	87
TD1-19	soil 10"		H sd-grav	brn, f-pebs; 50% ang frags of alt pyroclastics (sil'd, wk-str lim, brecc'd, grn vol, py'd mat, str chl'd frags), 35% sd, 15% org mat	7	1	72	472	318

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SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86373	float in stream	at 86372	alt'd vol	fr: grn gry, wh: orngy brn, f, py along stringers of qtz wk carb, 80% qtz, oxid mat, sulfs, v well sil'd, well lim on wh surf, well sulf'd, diss py to 8%	44	35	31	18	57
86374	float	5 m N & 5 m E of 86372	mafic vol	fr: grn-gry, wh: orngy-brn, f, sugary, vuggy, mod sil'd, mod-well dev stwk of sulfs, 75% andesitic comp, 20% qtz in veins stringers, 3-4% py as blebs diss & veinlets, oxid mat, tr sphal, mod sil'd, well lim on wh surfs	138	18	128	16	79
86376	float	5 m E of 86374	alt'd vol	fr: gry wht, wh: buff-orngy brn, f, vitreous luster; 85% qtz (gry, cherty), up to 10% f diss stwk of veins micro to macro, 10% py, tr cpy, str sil'd	262	61	131	33	110
86377	float	25 m down stream	alt'd vol	as 86373; more qtz	15	20	43	72	44
86378	boulder	10 m W of 377	sil'd mv	fr: gry wht, wh: orngy-brn, f, sugary, py diss & veins to 6%, well sil'd, well lim, on wh & in fract, wk carb, phenos of wh qtz in a gry qtz matrix	137	75	47	55	89
86379	float	3 m SW of 86378	sil'd mv	as 86378; vuggy wht qtz veins to 2 cm, 5% co py	183	60	45	25	43
86380	composite 1 m	50 m up hill from start EL 3940	sil'd vol or felsic vol	fr: grn gry, wh: buff-orngy brn, f, well sil'd, cherty; 2-3% diss py - euh cryst, cherty gry qtz, carb	2	3	8	17	97
86381	boulder		porph mv	fr: dk gry-wh, wh: orngy-brn, f, sil'd & py'd matrix with larger phenos of qtz & cal, 80% gry-wht qtz, 10% py, 5% cal, 5% oxid mat	2	16	42	31	46

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86382	boulder	EL 4050	felsic vol	as 86380; gry-blk grn-orng, f-med, gran, sugary, vuggy, well sil'd, cal in lenses vug fillings & veinlets, vugs with cpy, 2-3% py ass with chrysocolla (radiating needles), euh qtz cryst in vugs to 1 cm, 1-2% mal stains & lim stains on fract surfs	4	7	4270	15	65
86384	boulder	EL 4040	sil'd sulf vol	fr: gry-wht, wh: orngy-brn, f, gran, well bleached to clay, well lim & fract, oxid sulfs in stwk of fract, f sil'd matrix of qtz & 3-4% co py, earthy, vuggy, Mn stain; 80% qtz, 15% oxid mat, 5% py	31	31	63	19	112
86385	boulder		alt'd mv	fr: gry-grn-wht, wh: orngy-brn, f, vuggy, earthy on wh surf, Mn stain; as 86384, less wh, well sil'd, well lim, 7-8% wht carb, 4% oxid mat, 2-3% diss py	2	8	40	21	159
86386	boulder	50 m downstream from 8638	felsic vol	as 86382; tr mal, chrysocolla, cpy, py	2	2	556	13	63
86389	boulder	EL 4280	qtz porphy	fr: gry-wht, wh: orngy-brn, gran, well sil'd, gry wht qtz phenos in sil'd matrix, 5% diss py	5	34	38	28	72
86390	boulder	35 m W of 86389	qtz porphy	as 86389;	1	24	29	116	233
86391	boulder	40 m N of 86390	aglomerate	fr: gry-blu, wh: orngy-brn,sugary, porphy, frags to 6 cm, ang-rounded, comp varied, matrix (f, sil'd, porphy, gry qtz phenos, well lim on fract), 60% qtz, 25% frags, to 10% sulf diss py	2	12	27	59	169
86392	boulder	15m NE of 86391	alt'd mv	as 86396; striations on surf, well sil'd, 80% qtz, 15% py (f, sooty), well lim, chl on fracts	2	11	21	58	78
86395	talus	EL 4380	clay-grav	orngy brn, clay-pebs, 80% clay (well lim, some well sil'd, 5-7% diss py in frags), 20% pebs (ang frags of oxid mat, al-jar)	5	1	31	41	59
86396	boulder		alt'd mv	fr: gry-blu, wh: orngy, f, gran, vuggy, well fract, cal & chl on fract; 60% qtz, 10% py as diss vugs, 2-3% cal, oxid sulf stwk, well sulf'd, well lim & sil'd	6	9	24	57	79
86562	float		sil'd vol	fr: gry-wht, wh: orngy brn-gry blk, well lim with Mn stains, gry qtz, f with up to 7% diss	2	3	25	17	15

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	Ae ppm	Cu ppm	Pb ppm	Zn ppm
				py, f py as coatings, diss & veinlets, well fract in various directions					
86563	composite 1 m	by 86562	sil'd vol	fr: gry-wht, wh: orngy brn-gry blk, well lim with Mn stains, gry qtz, f with up to 7% diss py, f py as coatings, diss & veinlets, well fract in various directions	38	5	24	17	13
86565	composite 1 m		alt'd pyroclastic	fr: gry-blk, wh: orngy-brn, f, gran, matrix sulf'd & sil'd, some frags unalt'd; 90% qtz & feld, 7% oxid mat, 2-3% py	2	7	23	21	16
86569	composite 3 m		pyroclastic	fr: gry-wht, wh: dk orngy-brn-yell, frags to 40 cm, well sheared 80/vert, qtz veining, Mn on fracts, f, sugary, well sil'd, well lim, porphy; 90% qtz, feld, 7% py, 3% oxid mat	8	3	23	30	93
86570	talus		co pyroclastic	as 86563; more sil'd, str Mn coating, to 10% py; 85% qtz -phenos of wht qtz & feld, 5% chl assoc with py, f py blankets qtz	10	3	24	90	147
86571	talus	beside 86572	sil'd vol	as 86563; more sil'd, str Mn coating, to 10% py; 85% qtz -phenos of wht qtz & feld, 5% chl assoc with py, f py blankets qtz	17	4	15	44	205
86573	talus	EL 5060	alt'd pyroclastic	fr: gry-grn-wht, wh: orngy-brn-gry grn, frags well lim, Mn on wh surfs, fr bleached wht, schistose, f-med grain, sil'd oxid mat, to 5% diss py, grn-gry lapilli tuff, wk hem, porphy (qtz-feld), tex to glassy, oxid frags are earthy	43	18	3	186	422
86575	rock		check 2		15	5	17	18	29
86576	composite 2 m		Type 1 pyroclastic	fr: grn-gry, wh: orngy brn-gry wht, f sugary, porphy, well lim, sheared, well fract, lim on fracts, schistose component bleached wht, 10% diss sulfs forms matrix around frags, locally 3-4% chl assoc with py	7	7	21	20	27
86579	float	EL 4820	alt'd pyroclastic	orngy brn-gry grn, well fract, vein of cal, f, sugary, qtz, cal, to 5% diss py	10	4	27	25	41
86581	float	EL 4780	alt'd pyroclastic	as 86579; lim, well sil'd, qtz, feld, 5% diss py, porphy tex	12	12	40	26	65

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	STREAM SAMPLES								
86372	stream	50 m downstream from claim post EL 3920	H sd-grav	buff-orngy brn, f-pebs; 80% f sd, 20% pebs; 40% orngy brn oxid mat, 30% ang frags of grn gry vol, 30% grn qtz & wht-pk feld, 1-2% oxid py	90	1	106	42	82
86375	stream		check B		17	1	28	26	78
86383	stream	EL 4180	H sd-grav	sd-pebs, poor sort, gry blk sil'd vol, oxid mat	12	1	42	31	77
86387	stream	EL 3580	H clay-sd	gry brn, clay-f, 70% clay, 30% f qtz sd, well sort	9	1	43	38	88
86388	stream	EL 4200	H ssd	gry-brn, f-co, mod-well sort, oxid mat, wht qtz, cal, grn gry sil'd vol	19	1	42	34	80
86561	stream dry	EL 4940	H silt-sd	brn, silt-f, well sort; 50% silt, 50% qtz sd (ang frags of tuff mat -pple blk gry, oxid mat, felsic vol; stream flows 250 & drains alt'd area	5	1	18	59	104
86566	stream		H clay-sd	brn, clay-co, well sort; 60% clay, 40% f-co qtz sd (oxid mat, ang frags derived from pyroclastic, pple vol	4	1	27	67	139
86567	stream		H sd	gry-brn, f-co, well sort, f, qtz sd, oxid mat, gry-grn-pple vol	8	1	25	61	143
86577	stream	EL 4940	H clay-grav	brn, clay-pebs; 20% clay, 30% f qtz sd, 50% pebs (frags of lim pyroclastic, wk sulf'd, pple vol, qtz)	2	13	20	32	123
86578	stream	EL 4800	H clay-grav	brn, clay-pebs; 20% clay, 30% f qtz sd, 50% pebs (frags of lim pyroclastic, wk sulf'd, pple vol, qtz)	9	1	40	68	129
86582	stream	El 4740	silt-sd	brn, silt-f, qtz, oxid mat, 60% silt	5	1	27	51	119

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	SOIL SAMPLES								
86393	soil	40 m N of 86392 EL 4630	H sd-grav	brn, f-pebs; 70% pebs (ang, f, glassy, well sil'd, vuggy, oxid mat 5%), 30% grn vol (well sil'd, 70% qtz, 20% oxid mat, wh chl, tr bar, grn epi, 0.5% mag)	10	1	45	41	85
86394	soil	50 m N	H sd-grav	f-pebs, 70% f-co, 30% pebs, composition as 86393	6	1	37	34	70
86564	soil	S of 86562	H sd	brn, f-co, oxid frags of 86562 comp. brn tuff, pple vol	2	1	24	49	90
86568	soil	EL 4980	silt-sd	brn, silt-f; 80% silt, 20% f qtz sd (oxid mat, wht qtz, grn-gry vol)	5	1	23	64	141
86572	soil	below 86573	silt-sd	brn, silt-f; 80% silt, 20% f qtz sd (oxid mat, wht qtz, grn-gry vol)	3	1	27	78	193
86574	soil	EL 4960	silt-grav	silt-pebs; 20% silt, 30% f qtz oxid mat, 50% pebs (oxid ang alt'd py rock, lim, sulf'd)	3	1	32	46	94
86580	soil	on knob	silt-sd	orngy-brn, silt-f, qtz, oxid mat, 40% silt, knob (source) well lim, Mn stain, minor al-jar	17	1	60	57	92

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SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86306	talus boulder		pyroclastic	fr: dk grn-gry, wh: orngy-brn-rsty, f, sugary, feld porphy; 50% silica, 22% feld, 15% ser, 10% chl, 3% f diss py; 20% bombs in matrix, wk sil'd, ser'd	2	15	11	17	37
86307	talus boulder		pyroclastic	fr: med blu-gry, wh: orngy-brn-rsty, f, sugary, feld porphy; 50% silica, 22% feld, 15% ser, 10% chl, 3% f diss py; 20% bombs in matrix, wk sil'd, ser'd, al-jar	3	24	7	19	10
86308	talus boulder		pyroclastic	fr: lt cream-gry, wh: rsty-brn-pple, f, feld porphy; 65% silica, 20% feld, 10% chl (dk grn clots), 4% ser, 1% f diss py	1	9	12	13	9
86309	composite 2 m		alt'd pyroclastic	fr: blu-gry-maroon, wh: rsty-brn, fragmental, 60% silica, 25% ser, 20% feld phenos to 3 mm, 5% chl, tr py	10	14	10	14	11
86310	talus boulder		alt'd pyroclastic	fr: med-gry, wh: rsty-brn-orng, feld, porphy, f, sugary; 65% silica, 15% feld phenos, 15% ser, 5% chl, tr py	1	16	9	15	10
86311	talus boulder		alt'd pyroclastic	fr: grn-gry, wh: orng-brn-rsty, f; 20% qtz vein (rsty); ;70% silica, 10% feld phenos to 1 mm, 15% ser, 5% chl, tr py	1	12	17	20	9
86312	composite 2 m		alt'd pyroclastic	fr: mottled buff brn-gry-grn, wh: buff brn-lim, f, matrix with calsts to 5 cm; 60% silica, 20% ser, 10% chl, 10% feld pyrnos to 2 mm	6	24	34	21	13
86313	talus boulder		alt'd pyroclastic	fr: med blu-gry, wh: rsty-orng-brn pple, Mn stain, minor al-jar, f, sugary; 60% silica, 25% ser, 5% feld phenos to 1 mm, 10% chl, tr py, frags to 5 cm	2	2	12	11	10

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86314	talus boulder		co pyroclastic	fr: med gry-maroon, wh: maroon-rsty brn, f matrix with 50% frags to 15 cm; 60% silica, 15% feld phenos, 20% ser, 4% chl, 1% f diss py	1	17	19	15	20
86315	talus boulder		co pyroclastic	fr: grn-cream with blk chl clots, wh: rsty-brn-pple, minor Mn stain; 70% silica, 10% feld phenos to 1 mm, 15% ser, 5% chl, tr py, frags to 3 cm	2	4	8	14	11
86316	talus boulder		sil'd ash tuff	fr: dk brn-gry, wh: rsty-orng, aphan, crypto cryst; 80% silica, 15% ser, 5% chl, tr py	1	2	6	11	9
86317	composite 1 m		pyroclastic	fr: mottled cream-brn-blk, wh: orngy-brn, al-jar, f matrix with frags to 5 cm; 70% silica, 10% feld, phenos to 2 mm, 10% ser, 10% chl, tr py	4	13	24	20	104
86318	composite 2 m		pyroclastic	fr: wht-cream, wh: buff orng-brn, f, equi grn; 60% silica, 25% feld, 10% ser, 5% chl, tr py	1	19	7	16	38
86319	float		sil'd sediment	fr: blk-wht qtz vein, wh: buff brn, rsty, f, equi gran; 60% silica, 20% feld, 15% graphite, 5% chl, tr py	2	28	19	38	17
86320	boulder		pyroclastic	fr: mottled grn-maroon, wh: buff brn-orng rsty, minor stwk; 60% silica, 20% feld phenos, 15% ser, 5% chl, tr py	1	12	12	14	10

November 8, 1994

MID ZONE, TODD CREEK PROPERTY - SAMPLE DESCRIPTIONS AND ANALYTICAL RESULTS

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86001	composite 1.5 m	EL 4760	dacite	fr: blu-gry, wh: orng-yell-rust, v f, sugary, massive; 60% fels, 30% silica, 5% chl, 5% f diss py, wk sil'd & lim, al-jar	23	42	496	51	58
86002	talus over 2m	EL 4760	sd-grav	rsty-brn, f-pebs of 3cm frags, below 86001, al-jar stain	18	23	106	36	49
86003	composite 1 m	EL 4740	andesite	fr: lt gry-cream, wh: rsty-orng to deep brn, f, equi gran, sheared; 70% feld, 20% silica, 5% chl, 5% py, py'd, al-jar	3	8	24	13	9
86004	composite 0.5 m		alt'd andesite	fr: lt gry, wh: lt gry to rsty brn to pple brn, f, equi gran, sheared 215/70N, soft; 70% feld, 20% silica, 5% chl, 5% f diss py	1	10	27	6	7
86006	composite 1 m	EL 4600	alt'd andesite	fr: dk grn-gry, wh: yell rsty orng-dk brn, v f, equi gran, massive; 60% feld, 25% silica, 15% chl, 5% f diss py, wk sil'd, str chl'd	14	31	36	13	37
86007	composite 2 m		dacite	fr: lt gry, wh: yell-orng-rsty deep brn, v f, equi gran, massive, 60% feld, 30% silica, 5% chl, 5% py, al-jar, wk sil'd, mod chl'd, kaol'd	6	6	20	23	21
86008	talus comp 3m		sd-grav	yell-orngy-brn, f-ang pebs	15	14	166	11	38
86009	composite 1 m		py vein	brnz-metalic, med grain, 5-10 cm py stringer trend of 340/75S, str sil'd; 70% py, 10% cpy, 20% silica	1660	99	98000	745	163
86010	talus f 2m	below 86009	sd-grav	brn-orngy yell, f-pebs	83	34	754	23	78

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86011	float	EL 4580	dacite	fr: lt gry, wh: yell-brn-orng, f, equi gran; 60% feld, 25% silica, 7% py, 5% chl, 3% epi, py crystals to 2mm, mod chl, wk sil'd, py'd	20	102	446	22	18
86012	float	EL 4580	vein	fr: bronze-met, wh: rsty brn-onrng, f-co grain; 60% py, 20% silica, 10% cpy, 10% chl, semi-massive py vein, py blebs to 5mm, vein over 6 cm wide	1678	45	66800	275	6940
86013	talus f 3 m		sd-grav	rsty-brn, f-pebs	38	15	201	26	124
86014	talus f 2 m		sd-grav	brn, f-pebs, ang frags, dacitic mat	59	28	472	28	117
86016	composite 1.5 m	EL 4640	dacite	fr: lt gry, wh: yell-rsty orng-brn, v f, equi gran, massive, multi dir fracts 340/70S; 50% silica, 35% feld, 7% py, 5% epi, 3% chl, mod sil'd, wk chl'd, heavy al-jar	20	32	188	17	14
86017	talus f 3.5m		sd-grav	orng-brn to dk brn, med-pebs	37	35	256	22	45
86018	composite 2 m	EL 4640	dacite	fr: lt grn-gry, wh: brit yell-orngy brn, v f, equi gran, wk fracts no pattern; 60% silica, 30% feld, 4% py, 3% chl, 3% epi, heavy al-jar stain	114	27	32	16	5
86019	grab	EL 4640	rhyolite	fr: blu-gry, wh: yell to orngy-brn to pple, aphan, crypto cryst, massive; 70% silica, 20% feld, 8% py, 2% chl, al-jar stain well sil'd, wk chl	6	11	22	14	8
86020	talus f	EL 4640	sd-grav	dk brn-med brn, co-lg frags	91	96	71	23	29
86021	composite 4 m	EL 4640	py vein	fr: bronze metalic, wh: yell-orng-deep purple, f-med grain, 30 m exposure to 5 m wide, 265/45S	512	1150	1510	41	2
86023	composite 5 m	5m e of 86023 same vein	alt'd dacite & py vein	fr: lt gry & metalic bronze, wh: lt yell-orng rust-dk brn, f matrix with co grain py; 50% py, 40% silica, 5% feld, 5% chl, tr cpy; heavy al-jar stain	209	500	3410	22	19
86024	talus f 3m	below py vein 86021-023	sd-grav	orngy brn-beige, co-pebs	129	375	644	29	26
86027	in place	EL 4600	clay	lt gry-wht, 100% kaolinite, alt'd, goo	16	5	24	11	6

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86028	float	EL 4620	andesite or GD intrusive	fr: lt gry, wh: brn, vugs, co; 70% feld, 15% silica, 10% py, 5% chl, py in blebs to 2 mm	11	97	120	27	20
86029	talus block	EL 4600	dacite	fr: med gry, wh: brit yell to orng-rsty-brn, v f, equi gran, massive; 50% silica, 30% feld, 10% chl, 8% py, 2% epi, str al-jar stain, mod sil'd & chl'd	3	2	18	9	4
86030	float	EL 4600	dacite	fr: lt gry-grn, wh: dk brn-pple, f, equi gran, massive; 60% silica, 30% feld, 6% epi, 4% py, mod sil'd, wk epi'd	49	225	181	21	11
86031	talus		sd-grav	wht, f-med-blebs, sheared material, 345/vert	4	8	9	8	12
86032	talus		sd	dk purple tuff, 354/vert	3	12	6	20	17
86033	talus f 3m		sd-grav	lt mustard yell, f-pebs	5	10	11	5	2
86034	talus f 5m		sd-grav	dk mustard yell-orng, f-pebs	5	7	10	3	3

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	STREAM SAMPLES								
86005	stream		sd-grav	dk brn, f-pebs	11	1	135	45	94
86015	stream	EL 4580	sd-grav	dk brn-orng, f-pebs	65	1	122	39	80
86022	stream	below py vein			46	1	343	39	75
86026	stream		sd	dk brn, f-co, lim	38	1	311	31	37
86035	stream		sd-grav	gry, f-pebs	2	1	77	33	56
86036	stream		sd-grav	gry-brn, f-pebs	7	1	71	45	89
86037	stream	below py vein 86021 & 023	silt-sd	brn, silt-co	68	1	104	30	76
86038	stream	EL 4580 below py vein 86021 & 023	silt-sd	brn, silt-f	37	1	217	39	76
86039	stream	EL 4580	silt-sd	brn-gry, silt-co	25	1	139	33	72
86040	stream	EL 4560	silt-sd	orngy-brn, silt-co	29	1	140	15	29
86041	stream		silt-sd	brn, silt-co	43	1	83	26	68
86042	stream		silt-sd	med brn, silt-co	57	1	106	23	79

November 16, 1994

NORTH ZONE, TODD CREEK PROPERTY - SAMPLE DESCRIPTIONS AND ANALYTICAL RESULTS

GRID A SAMPLES - TAKEN ON RE-ESTABLISHED NORANDA NORTH ZONE GRID

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86043	dump mat grab	10025E 10071.5N trench	altd andesite	fr: dk grn gry wh: rsty brn mal-grn, aphan matrix with 35% qtz carb (as ang blebs to 5mm), matrix (60% silica, 20% chl, 15% f-co diss py, mal stain on fracts)	5400	38	7870	44	301
86044	composite 3 m	10025E 10071N trench	felsic vol	fr: pink-buff, wh: rsty buff, f, equi gran, fracts 120/75W; 50% silica, 40% feld, 8% ser, 2% f-med gran diss py	17	15	46	30	137
86045	composite 2 m	10025E 10067N trench	felsic vol	fr: pink-buff, wh: rsty buff, f, equi gran, fracts 120/75W; 50% silica, 40% feld, 8% ser, 2% f-med gran diss py	88	20	205	332	986
86046	composite 2 m	10025E 10062N trench	felsic vol	fr: lt grn gry, wh: rsty-brn, fracts 172/75W, aphan, crypto cryst; 60% silica, 25% feld, 8% f & co veins blebs & diss py, 7% chl	519	27	4430	624	5490
86047	composite 1 m	10023E 10050N trench	felsic vol	as 86043; qtz carb 40%, frags 60%, qtz carb forms patches to 5 cm, 5% py, 2% cpy; lim	8900	50	7510	92	234
86048	float	9850E 9980N	agglomerate	fr: med gry, wh: pply-brn to rsty-orng, med grain, equi gran, aglom with frags to 3 cm, felsic frags in mafic host; 60% silica, 20% feld, 10% chl, 10% ser, 5% carb, 5% f diss py	34	1850	48	118	97
86049	float	9853E 9979N	rhyolite	fr: med blu-gry, wh: rsty-pple-brn bt yell, al-jar, aphan, crypto cryst; 75% silica, 15% ser, 12% v f-med diss py, 3% chl	10	42	35	21	12
86050	rock		check 2		5	24	15	216	513
86051	float	9851E 10050N	ash fall tuff	fr: dk gry-beige, wh: buff brn-rust, med, equi gran; 50% silica, 30% feld, 10% ser, 5% chl, 3% carb, 2% py, mod sil'd	1	48	12	27	15
86052	float	9852E 10060N	ash fall tuff	fr: med gry, wh: rsty-brn-pple, med, equi gran; 60% silica, 20% feld, 15% chl, 5% f-med diss py, str sil'd & chl'd	82	1050	26	55	54
86053	float	9880E 10095N	alt'd andesite	fr: blu gry, wh: rsty-pple-brn, aphan, crypto cryst; 75% silica, 10% feld, 10% ser, 5% f diss py, str sil'd & ser'd	6	7500	21	221	56

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86053	float	9880E 10095N	alt'd andesite	fr: blu gry, wh: rsty-pple-brn, aphan, crypto cryst; 75% silica, 10% feld, 10% ser, 5% f diss py, str sil'd & ser'd	6	7500	21	221	56
86054	float	9896E 10071N	alt'd felsic vol	fr: wht-buff, wh: rsty-orng-brn, v co grain, phenos of barite to 5 mm; 60% silica, 30% barite, 5% ser, 3% gal, 2% chl, str sil'd	2	35	169	1610	1620
86055	float	9893E 10070N	alt'd andesite	fr: dk gry, wh: pply brn-orng, al-jar, v f, equi gran; 60% silica, 20% feld, 5% carb, 5% ser, 5% chl, 4% f diss py, 1% f diss arseno py, str sil'd	1	44	18	49	11
86056	float	9890E 10000N	rhyolite	fr: dk blu-gry, wh: rsty orng-brn, lt al-jar, aphan, crypto cryst; 80% silica, 10% ser, 5% chl, 5% f diss py, str sil'd	1	38	14	26	10
86057	composite 5 m	9940E 9943N	ash fall tuff	fr: dk gry, wh: yell-brn, f, equi gran; 50% silica, 35% feld, 5% ser, 5% chl, 3% carb, 2% f diss py, mod sil'd, lim, hem	1	8	6	19	74
86058	float	9925E 10070N	qtz carb barite vein	wht-cream, f co grain, crystals to 1.5 cm; 40% silica, 40% carb, 15% barite, 5% chl	1	4	9	23	22
86059	float	9947E 10068N	rhyolite	fr: med gry, wh: rsty-orng-brn, aphan, crypto cryst; 80% silica, 10% ser, 5% chl, 5% f diss py, str sil'd	4	30	40	14	8
86060	float	9949E 10068N	rhyolite	fr: med grn-gry, wh: yell grn to rsty-orng brn, aphan, crypto cryst; 80% silica, 10% chl, 5% f diss py, 5% ser, str sil'd, al-jar	14	17	39	31	21
86061	composite 1 m	10001E 10060N	qtz vein	fr: wht-dk grn, qtz vein with 30% dk grn andesite frags, trend 315/70W, qtz(f, sugary); 70% silica, 15% andesite frags, 10% v co py rimmed with lim, 5% cpy; sil'd, mal stain	1070	106	24300	53	197
86062	rock	9999E 10057N	qtz-carb vein	as 86061; 30 cm wide vein, 50% andesite frags, 15% py, 5% cpy; chl'd	229	41	6570	90	321
86063	composite 1 m	9999E 10055E	qtz vein	as 86061; 15 cm wide vein, 15% py, 55% andesite, chl'd, sil'd, lim	75	52	5140	133	224
86064	dump mat grab	9998E 10048N	andesite with qtz vein	fr: dk grn-gry to wht vein, wh: rsty-orngy-brn, mal stain, f, equi gran; 50% silica, 30% feld, 15% chl, 5% f diss py, qtz carb veins to 25% with co py, copper stain	22.67 g/tonne	750	9760	101	798
86065	composite 1.5 m	9997E 10045N	alt'd andesite	fr: dk grn gry wh: rsty-orng-brn, f, equi gra; 50% silica, 25% py as co blebs & diss, 10% feld, 10% lim, 5% cpy sil'd	11.5 g/tonne	1975	31000	212	1830

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86066	composite 1.5 m	9996E 10049N	alt'd andesite	fr: dk grn-gry, wh: buff brn, f equi gran, micro veining of qtz carb(7%); 60% silica, 20% feld, 7% qtz carb, 11% f-co diss py, 2% cpy mod sil'd	761	40	4290	65	525
86067	composite 2 m	9999E 10053N	alt'd andesite	as 860065; 10% py, 60% silica, 15% feld 5% cpy	14.5 g/tonne	1500	19100	267	5210
86068	float	10038E 9985N	alt'd andesite	fr: dk grn gry, wh: pply-brn, Mn stain, f veins & diss of py, py-ser vein 1 cm wide; 45% silica, 20% feld, 10% hbld, 10% ser, 15% f-co diss & veinlets py	671	2550	295	85	152
86069	composite 5 m	10050E 10058N	alt'd felsic vol	fr: med gry, wh: pk-red to rsty-brn-orng, aphan, crypto cryst; 60% silica, 20% feld, 10% ser, 7% py, 3% chl, mod sil'd, wk ser'd, v wk chl'd	25	22	55	50	76
86070	rock	10051E 10064N	alt'd andesite	fr: dk grn gry, wh: rsty-orng deep pple-brn, f, equi gran; 50% silica, 25% feld, 5% ser, 5% chl, 10% f diss & co grain veinlets py, 5% cpy sil'd' chl'd, ser'd	333	56	5950	113	515
86071	float	10042E 9970N	alt'd andesite	as 86070; 50% silica, 25% chl, 15% f-med diss & veinlets py, 10% feld, str chl'd, mod sil'd	2780	725	90	72	417
86072	composite 1 m	10049E 9972N	ash fall tuff	fr: dk grn, wh: gry grn-rsty brn, f, equi gran; 40% silica, 30% feld, 20% chl, 5% ser, 5% f diss py, str chl'd	7	20	67	23	68
86073	composite 1.5 m	9977E 9990N	ash fall tuff	fr: med gry-grn, wh: rsty orng-brn-yell, f, equi gran, rusty vein in ash fall tuff, shear 320/85E; 40% silica, 40% feld, 10% pk carb, 10% chl	6	5	51	23	49
86074	composite 5 m	10000E 10070N	ash fall tuff	fr: red-brn, hem, wh: buff red-brn, med, equi gran, 1 cm qtz veins 305/40W; 60% silica, 30% feld, 5% ser, 5% hem, mod sil'd	39	21	43	42	119
86075	rock		check 2		6	25	30	198	492
86076	composite 1.5 m	9997E 9975N	alt'd andesite	fr: dk grn-gry, wh: rsty-brn-orng, v f, equi gran; 60% silica, 20% feld, 15% f diss py, 3% cpy, 2% chl, mal stain, mod sil'd, with qtz carb veining & mal, 195/85E	458	625	4550	67	108
86077	composite 1 m	10001E 9971N	qtz carb vein	fr: wht-pink, wh: buff brn-rsty, co phenos to 1 cm; 60% silica, 30% carb, 7% chl, 3% gal, vein 20 cm wide, vein from 86076 rock	125	250	38	56	35

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86078	composite 0.5 m	10002E 9970N	py'd ash tuff	fr: dk gry-grn, wh: rsty pple-brn, extension of rsty vein from 86076 & 077; 50% f-co semi-massive py, 30% silica, 10% chl, tr apy, tr cpy	418	1100	93	84	81
86079	boulders	10001E 9960N	rhyolite	fr: buff gry, wh: rsty orng-brn, f, equi gran, banding; 70% silica, 20% feld, 5% ser, 5% v f diss py, str sil'd	16	20	10	18	24
86080	composite 3 m	9995E 9930N	qtz carb vein	fr: med grn gry, wh: wht to lim yell, vein 1 m wide 275/85S; 50% silica, 20% carb, 15% chl, 10% f diss py, 3% co cpy, 2% ser, mal staining	1355	91	7440	67	1420
86081	float	10020E 10020N	alt'd andesite	fr: grn-gry, wh: rsty brn, f, equi gran; 50% silica, 20% feld, 10% ser, 10% chl, 3% carb, 7% f diss py, mod sil'd	26	5	47	30	74
86082	float	10021E 10030N	alt'd andesite	as 86081; 60% silica, 20% feld, 5% chl, 5% ser, 10% f diss py, str sil'd	33	16	62	32	73
86083	float	10050E 10050N	andesite	fr: dk grn-gry, wh: rsty-brn, f, equi gran, narrow QV 2 mm - 2 cm wide; 60% silica, 20% feld, 10% QV, 5% v f diss py, 3% co cpy in veins, 2% chl	15	9	972	130	166
86084	float	10049E 9968N	rhyolite	fr: lt blu-gry, wh: rsty-orng bt yell, str al-jar, aphan, crypto cryst; 80% silica, 10% ser, 5% chl, 3% f diss py, 2% carb	60	14	20	22	21
86085	composite 2 m	10050E 9958N	alt'd andesite	fr: dk grn-gry, wh: rsty-brn, v f, equi gran; 70% silica, 20% feld, 10% f-med py, tr cpy, tr azurite, str sil'd	123	29	27	31	63
86086	composite 1 m	10047E 9960N	andesite hbld porphy	fr: dk grn-gry, wh: yell-orng-red-brn-pple, f; 40% silica, 30% feld, 20% hbld phenos to 1 mm, 5% f diss py, 5% chl, tr cpy, wk sil'd, rsty vein in rock 280/86E	54	40	46	47	106
86087	composite 1 m	10073E 9972N	alt'd andesite	fr: dk grn, wh: rsty-orng-pply-brn, f, equi gran; 40% silica, 20% feld, 20% py, 10% qtz-carb, 5% chl, 5% cpy, wk sil'd	2340	1900	4170	119	95
86088	composite 1 m	10077E 9980N	alt'd andesite	fr: lt grn-gry, wh: rsty-orng-pply-grn, f, equi gran; 50% silica, 30% feld, 8% chl, 8% f diss & co to 3 mm py, 2% carb, 2% cpy, rsty vein trend 288/vert	1155	850	4700	74	109
86089	composite 3 m	10070E 10045N	alt'd andesite	fr: med grn-gry, wh: rsty brn-orng-yell, f, equi gran, shear 295/85E; 60% silica, 20% feld, 10% ser, 5% chl, 5% f diss py	49	21	89	33	70

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86090	composite 1 m	10105E 10012N	alt'd andesite	fr: dk grn-gry, wh: lt yell-orng rsty-brn, v f, equi gran; 60% silica, 20% feld, 15% chl, 5% f diss py	63	95	25	51	89
86091	composite 3 m	10098E 9995N	alt'd andesite	fr: dk blu-gry, wh:pply-brn-orng, f, equi gran, sulf vein 220/vert & 260/vert; 50% silica, 20% feld, 15% chl, 15% f diss & patches py, mod sil'd, str chl'd	684	625	119	155	76
86092	composite 2 m	10095E 9992N	alt'd andesite	fr: dk blu-gry, wh: pply-brn rsty-orng, f, equi gran; 40% silica, 20% feld, 30% f diss & veinlets py, 10% chl	4040	1400	393	560	119

GRID C SAMPLES - TAKEN ON 1994 GRID NORTH OF FALL CREEK

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86184	boulder	20750N 19875E	sil'd pyroclastic	fr: dk grn, wh: rsty pple, lim, sheared, aphan with bombs to 15 cm; 70% silica, 10% ser, 10% chl, 7% feld phenos, 2% py, 1% pyrr	392	750	61	28	56
86185	boulder	20750N 19862E	sil'd pyroclastic	fr: pple, wh: pple-orng, lim, f matrix with 60-70% ang bombs, str sil'd; 70% silica, 10% feld phenos, 10% ser, 10% chl	14	53	42	23	54
86188	composite 1 m	20750N 19770E	feld porphy tuff	fr: lt gry-grn, wh: rsty-brn-orng, str lim, aphan, feld porphy; 70% silica, 20% feld phenos, 10% ser	23	78	98	24	45
86189	boulder	20750N 19703E	hem qtz vein	fr: wht-pink, wh: wht-pink-rsty, Mn stain; 90% qtz, 10% hem	6	24	107	203	16
86190	boulder	20750N 19696E	sil'd pyroclastic	fr: dk gry, wh: rsty-brn, f, feld porphy; 60% silica, 20% feld phenos, 10% ser, 5% chl, 5% py, ang-rnd frags to 10 cm	36	2900	79	24	60
86194	composite 5 m	20750N 19530E	sil'd pyroclastic	fr: mottled pple-grn, wh: pply red-rst patches, feld porphy, wall rock; 60% silica, 25% feld phenos, 10% ser, 5% chl, bombs to 30 cm (ang & rnd)	2	37	40	16	45
86195	boulder	20750N 19935E	sil'd pyroclastic	fr: lt gry-grn, wh: rsty-orng-brn with gry patches, f, sugary; 70% silica, 15% chl, 5% ser, 5% f diss to co cubic py, 5% qtz-carb	184	79	112	36	59
86196	boulder	20750N 19990E	rhyolite	fr: blu-gry, wh: muddy brn-rst, f, sugary; 70% silica, 10% qtz-carb as veins, 10% ser, 5% chl, 5% f diss & veins py	65	108	210	25	207
86197	boulder	20680N 20002E	massive py boulder	fr: bronzy-metalic, wh: rsty-brn-pple, f, sugary; 85% py, 10% silica, 5% chl	1310	2150	213	548	100
86198	boulder	20692N 20005E	rhyolite	fr: lt blu-gry, wh: orng-rsty-brn-pple, al-jar, aphan, crypto cryst; 75% silica, 15% ser, 5% chl, 2% qtz-carb, 3% f diss py	28	100	16	31	28
86199	boulder	20745N 20050E	sil'd pyroclastic	fr: lt grn-gry, wh: rsty brn-orng, fragmental tex; 70% silica, 15% ser, 10% chl, 5% f diss py	1	22	14	206	455

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86200	rock		check		47	77	25	21	27
86296	boulder	20745N 20051E	sil'd pyroclastic	fr: med grn-gry, wh: rsty-orng-brn, al-jar, f, sugary; 80% silica, 10% ser, 5% chl, 5% f diss py	29	23	9	18	12
86297	boulder	20740N 20025E	py'd pyroclastic	fr: lt blu-gry, wh: pple-rsty brn, f matrix with frags to 1 cm; 50% py, 35% silica, 10% chl, 5% ser	695	475	3480	36	45
86299	float	20745N 20253E	pyroclastic	fr: dk grn, wh: grn-rsty-brn, f, sugary; 60% silica, 10% feld phenos to 1 mm, 15% ser, 10% f-co py, 5% chl, tr cpy	63	74	36	28	29
86325	boulder 5 m X 4 m	20975N 19560E	alt'd pyroclastic	fr: med blu-gry, wh: rsty-orng-pply-brn, al-jar, aphan, crypto cryst; 70% silica, 15% ser, 5% chl, 5% epi, 3% v f diss py, 2% carb	1	21	9	189	432
86326	rock		check 2		1	6	18	24	58
86327	composite 3 m	20950N 19500E	pyroclastic	fr: gry-grn, wh: buff brn; 75% silica, 15% ser, 5% chl, 2% epi, 2% py, frags to 5 cm	4	1	20	18	27
86332	boulder	20956N 19575E	rhyolite	fr: dk grn, wh: dk brn-orng-yell, al-jar; 80% silica, 10% ser, 3% chl, 7% f diss py, tr cpy	5	49	21	39	39
86341	composite 5 m	20960N 19750E	alt'd pyroclastic	fr: grn-gry, wh: orng-brn-pple, minor al-jar, lt sheared, v f grain; 60% silica, 20% ser, 10% chl, 5% carb, 3% f diss py, 2% epi	3	37	17	156	402
86342	composite 2 m	20957N 19772E	alt'd pyroclastic	fr: grn-gry, wh: orng-brn-pple, minor al-jar, lt sheared, v f grain; 60% silica, 20% ser, 10% chl, 5% carb, 3% f diss py, 2% epi	8	106	22	88	21
86348	composite 2 m	20950N 19895E	sil'd pyroclastic	fr: med blu-gry, wh: rsty-brn-yell-pple, al-jar, f; 70% silica, 20% ser, 5% chl, 5% f diss py, str sil'd, tr cpy	2	15	10	19	10
86349	comp 2 m	20950N 19898E	sil'd pyroclastic	fr: med blu-gry, wh: rsty-brn-yell-pple, al-jar, f; 70% silica, 20% ser, 5% chl, 5% f diss py, str sil'd, tr cpy	3	17	9	21	8
86502	boulder	20850N 20450E	sil'd pyroclastic	fr: med blu-gry, wh: rsty-brn-pple, al-jar, aphan, crypto cryst; 80% silica, 10% ser, 5% chl, 3% py, 1-2% epi	93	56	30	25	11
86511	composite 1 m		alt'd pyroclastic	fr: med grn, wh: rsty-brn-pple, v f, sugary, 1 m wide alt'd zone; 70% silica, 10% feld, minor	40	77	61	56	251

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				feld porphy, 10% chl, 5% v f diss py, 5% ser					
86512	float	20850N 20347E	alt'd pyroclastic	fr: med grn, wh: grn-gry, f, feld phenos to 1-2 mm; 50% silica, 20% feld, 15% ser, 10% chl, 5% epi, tr f diss py	2	4	37	15	93
86526	rock		check 2		3	21	9	210	459
86527	float	20848N 20100E	alt'd pyroclastic	fr: med blu-grn, wh: rusty-brn-pple, al-jar, aphan, crypto cryst; 60% silica, 20% ser, 10% chl, 7% carb, 3% f diss py	40	250	16	33	28
86630	composite 4 m	20850N 19958E	alt'd pyroclastic	fr: med blu-gry, wh: rsty orng-pple-brn, Mn stain, al-jar, aphan, crypto cryst; 75% silica, 10% ser, 5% chl 7% f diss py, 3% epi	7	73	16	20	10
86631	composite 3 m	20850N 19953E	alt'd pyroclastic	fr: med blu-gry, wh: rsty orng-pple-brn, Mn stain, al-jar, aphan, crypto cryst; 75% silica, 10% ser, 5% chl 7% f diss py, 3% epi	648	24	4200	6	23
86643	composite 7 m	20845N 19700E	alt'd pyroclastic	fr: cream-grn, wh: lim yell-hem red, frags to 10 cm in an aphan matrix, frags ang-rnd; 75% silica, 10% ser, 10% feld phenos, 5% chl, tr py	27	11	8	14	40
86645	composite 2 m	20850N 19691E	qtz vein	fr: wht-blu-gry, wh: lim rsty-orng, vein 1.5 m wide 310/42NE, co grain, frags of country rock to 5 cm; 85% silica, 10% rock chips, 5% chl	34	10	11	10	25

STREAM SEDIMENT SAMPLES

				Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86161 stream	20950N 20137E	silt-grav	dk gry-brn, silt-co pebs; 20% silt, 50% sd, 30% co ang pebs (maroon-gry, pyroclastics, oxid & bleached mat), minor org mat	3	1	31	41	106
86165 stream	20950N 20200E	silt-sd	sd brn-blk, silt-sd; 30% silt, 60% sd, 10% org mat	2	1	28	34	71
86172 stream	20950N 20355E	clay-sd	dk brn-blk, muckey, clay-co; 15% clay-silt, 10% sd, 75% org mat	2	1	44	21	56
86173 stream	20950N 20374E	silt-sd	dk brn-blk, silt-co; 15% silt, 20% co sd, 70% org mat	9	1	23	28	72
86176 stream		check 2		6	1	26	35	74
86180 stream	20850N 19527E	silt-grav	dk gry, silt-pebs; 15% silt, 40% sd, 35% pebs (maroon-grn-oxid, pyroclastic)	4	1	19	28	63
86183 stream		check 2		5	16	25	31	71
86186 stream	20750N 19816E	silt-grav	med brn, silt-pebs; 40% silt, 30% sd, 30% pebs (grn-maroon-lim, oxid, ang, pyroclastic)	17	28	28	32	54
86187 stream	20754N 19780E	silt-grav	lt-med brn, silt-pebs; 40% silt, 30% sd, 30% pebs (maroon, grn, ang, pyroclastic, minor qtz frags), minor org mat	3	5	22	26	55
86191 stream	20750N 19573E	silt-grav	med brn, silt-pebs; 30% silt, 50% sd, 20% pebs (maroon-grn, ang, pyroclastic)	1	1	21	37	92
86192 stream	20758N 19562E	silt-grav	gry brn, silt-pebs; 15% silt, 50% sd, 35% pebs (grn-maroon, pyroclastic)	13	1	21	30	71
86193 stream	20750N 19533E	silt-grav	lt brn-gry, silt-pebs; 20% silt, 45% sd, 30% pebs (grn-oxid-maroon, pyroclastic), 5% oxid mat	24	1	23	24	57
86298 stream	20745N 20253E	silt-grav	med brn, silt-pebs; 25% silt, 50% sd, 25% pebs (grn-maroon, rnd, pyroclastic)	130	1	33	35	76
86300 stream		check 2		2	1	26	28	69
86301 stream	20750N 20293E	silt-grav	dk gry, silt-pebs; 10% silt, 30% sd, 60% pebs (grn-maroon, pyroclastics, some oxid mat)					

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86302	stream	20750N 20365E	silt-grav	brn-tan, silt-pebs; 50% silt, 30% sd, 20% pebs, minor org mat	24	1	47	34	81
86303	stream	20750N 20423E	silt-grav	dk gry, silt-pebs; 10% silt, 40% sd, 50% pebs (grn-maroon, pyroclastic)	30	1	43	31	76
86304	stream	20750N 20436E	silt-grav	dk brn-blk, silt-pebs; 20% silt, 40% sd, 30% pebs (grn pyroclastic, qtz), 10% org mat	3	1	55	26	69
86305	stream	20750N 20468E	silt-sd	gry brn, silt-co; 30% silt, 70% sd, minor org mat, grn ang pyroclastics, qtz	333	14	27	41	74
86334	stream	20950N 19602E	silt-grav	dk brn, silt-pebs; 35% silt, 35% sd, 30% pebs (heterolitiic, grn, oxid, bleached, pyroclastic), minor org mat	3	1	25	42	94
86501	stream	20850N 20450E	clay-sd	gry brn, clay-co; 50% clay, 48% sd, 2% org mat	20	1	19	27	66
86504	stream	20850N 20422E	silt-grav	dk brn, silt-pebs; 60% clay-silt, 30% sd, 10% pebs	50	1	22	31	76
86505	stream	20850N 20405E	silt-grav	dk brn-blk, silt-pebs; 20% silt, 40% sd, 30% pebs (heterolithic, pyroclastic), 10% org mat	18	1	23	28	72
86510	stream	20850N 20321E	silt-grav	dk gry-brn, silt-co pebs; 60% silt, 20% f sd, 15% ang pebs, 5% org mat	11	1	19	27	62
86513	stream	20850N 20300E	silt-grav	med brn, silt-co pebs; 25% silt, 30% sd, 43% pebs (heterolithic, ang to rnd, pyro-clastic), 1-2% org mat	16	1	28	30	69
86515	stream/ soil	20850N 20275E	silt-grav	dk brn, silt-pebs; 70% f grn silt, 10% sd, 20% pebs (grn pyroclastic, ang)	74	1	49	23	59
86516	stream	20850N 20263E	clay-sd	buff brn-gry, clay-co; 70% clay, 30% sd	2	1	17	29	62
86521	stream	20850N 21050E	silt-grav	dk brn-blk, silt-co pebs; 10% silt, 50% sd, 30% pevs (grn-red, rnd to ang), 10% org mat	45	1	29	32	77
86525	stream		check 2		24	76	22	30	77
86614	stream	20850N 20694E	silt-grav	dk gry-blk, silt-pebs; 20% silt, 40% sd, 60% pebs (dk grn, ang, minor qtz), minor org mat	54	1	84	49	85
86620	stream/ soil	20850N 20550E	silt-grav	dk gry, silt-pebs; 60% silt, 10% sd, 25% pebs (ang, dk grn, pyroclastic), 5% org mat	18	1	34	30	67
86625	stream		check 2		26	1	28	37	75

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86648	stream	20850N 19629E	silt-grav	dk brn, silt-pebs; 20% silt, 50% sd, 40% pebs (grn-wht-maroon, qtz & pyroclastic, some well oxid)	1	1	24	34	97
86650	stream		check 2		9	31	29	31	78
	SOIL SAMPLES								
86151	soil	20950N 19900E	silt-sd	dk brn, f silt-co sd, minor pebs; 20% silt, 65% sd, 10% pebs, 5% org mat	7	1	19	31	75
86152	soil	20950N 19925E	silt-grav	dk brn, f silt-co peb; 20% silt, 50% sd, 25% co pebs (pyroclastics), 5% org mat	15	1	21	42	86
86153	soil	20950N 19948E	silt-grav	med brn, silt-pebs; 30% silt, 50% sd, 20% pebs (rnd-ang, grn-maroon, pyroclastic), minor org mat	5	1	24	37	82
86154	soil	20950N 19975E	silt-grav	dk brn, silt-pebs; 15% silt, 35% sd, 50% pebs (maroon-grn, ang, pyroclastic), minor org mat	5	1	21	37	86
86155	soil	20950N 20000E	silt-grav	dk brn, silt-pebs; 10% silt, 50% sd, 35% pebs (ang, grn, pyroclastic)	6	1	20	40	83
86156	soil	20950N 20025E	silt-grav	dk brn-blk, silt-pebs; 25% silt, 60% sd, 10% pebs (rnd, grn-maroon, pyroclastic), 5% org mat	4	1	39	43	96
86157	soil	20950N 20050E	silt-grav	dk brn, silt-co pebs; 15% silt, 50% sd, 25% co pebs (rnd-ang, dk grn, pyroclastic), minor org mat	5	1	18	33	76
86158	soil	20950N 20075E	silt-grav	dk brn-blk, silt-pebs, 15% silt, 60% sd, 20% pebs (rnd-ang, pyroclastic), 5% org mat	7	1	20	38	68
86159	soil	20950N 20100E	silt-grav	dk brn, silt-pebs, 15% silt, 60% sd, 25% ang pebs (dk grn, pyroclastic), minor org mat	5	1	25	39	88
86160	soil	20950N 20125E	silt-grav	dk brn, silt-co pebs; 20% silt, 40% sd, 35% pebs (ang, dk grn with some wht silica, most pyroclastics), 5% org mat	3	1	22	40	90
86162	soil	20950N 20150E	silt-grav	med brn, silt-co pebs, 40% silt, 30% f sd, 30% ang pebs (dk grn, pyroclastics), minor org mat	37	1	21	39	90

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86163	soil	20950N 20175E	silt-grav	dk brn, silt-co pebs; 30% silt, 30% sd, 35% pebs (ang, dk brn, pyroclastic, minor silica), 5% org mat	4	1	28	47	94
86164	soil	20950N 20198E	silt-grav	dk brn, silt-co pebs; 10% silt, 60% sd, 25% pebs (ang-rnd, dk grn-maroon, pyroclastics, minor epi'd), 5% org mat	58	1	24	32	68
86166	soil	20950N 20225E	silt-grav	dk brn, silt-co pebs; 25% silt, 45% sd, 25% co pebs (and, dk grn, pyroclastic), 5% org mat	4	1	22	33	82
86167	soil	20950N 20250E	silt-grav	buff brn, silt-pebs; 50% silty clay, 20% sd, 25% pebs (ang, grn, pyroclastic), 5% org mat	4	1	21	38	89
86168	soil	20950N 20275E	clay-grav	buff brn, clay-pebs; 30% clay-silt, 45% sd, 20% co pebs, 5% org mat	9	1	21	40	93
86169	soil	20953N 20298E	silt-grav	dk brn, silt-co pebs; 5% clay-silt, 70% sd, 25% co pebs (ang, dk grn-maroon, pyroclastic), minor org mat	5	1	27	36	77
86170	soil	20950N 20325E	silt-grav	dk brn, silt-pebs; 5% silt, 60% sd, 30% pebs (grn-maroon, ang, pyroclastic), 5% org mat	8	1	33	47	76
86171	soil	20946N 20346E	silt-grav	med brn, silt-pebs; 15% silt, 50% sd, 35% pebs (sub rnd-ang, maroon-grn, pyroclastic), minor org mat	3	1	28	35	76
86174	soil	20953N 20406E	silt-grav	med gry, silt-pebs; 15% silt, 35% sd, 50% pebs (grn-maroon, ang, pyroclastic)	7	1	29	38	64
86177	soil	20850N 19600E	silt-grav	dk brn, silt-pebs; 20% silt, 55% dk, 20% pebs (grn-maroon, pyroclastic), 5% org mat	5	1	24	32	77
86178	soil	20850N 19575E	silt-grav	med brn, silt-pebs; 25% silt, 50% sd, 25% pebs (grn-maroon & oxid, pyroclastic), minor org mat	14	1	20	26	77
86179	soil	20850N 199550E	silt-grav	dk gry, silt-pebs; 20% silt, 50% sd, 30% pebs (maroon, some oxid mat, ang, pyroclastic), minor org mat	8	1	19	28	69
86181	soil	20850N 19525E	silt-grav	med brn, silt-pebs; 15% silt, 50% sd, 35% pebs (grn pyroclast, qtz, oxid mat), minor org mat	3	1	18	34	71
86182	soil	20850N 19500E	silt-grav	dk brn, silt-pebs; 20% silt, 50% sd, 30% pebs (maroon-grn, ang-rnd, pyroclastic, some wk oxid mat)	6	1	18	31	69
86328	soil	20950N 19503E	silt-grav	med brn, silt-pebs; 15% silt, 65% sd, 20% pebs (grn, ang, oxid, pyroclastic), minor org mat	46	1	22	38	77

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86329	soil	20950N 19525E	silt-grav	buff brn, silt-pebs; 15% silt, 50% sd, 35% co pebs (ang-sub rnd, grn-bleached-gry, pyroclastic), 5% org mat	8	1	27	42	96
86330	soil	20950N 19550E	silt-grav	dk brn, silt-pebs; 30% silt, 40% sd, 25% pebs (rnd-ang, maroon-grn, pyroclastic), 5% org mat	4	1	24	44	100
86331	soil	20950N 19575E	silt-grav	buff brn, silt-co pebs; 20% silt, 50% sd, 20% pebs (dk grn, oxid, Mn stain, pyroclastic), minor org mat	10	1	23	40	91
86333	soil	20950N 19600E	silt-grav	buff brn, silt-pebs; 20% silt, 50% sd, 30% pebs (ang, dk grn, minor qtz), tr org mat	6	1	26	42	93
86335	soil	20950N 19649E	silt-grav	dk brn, silt-pebs; 25% silt, 40% sd, 30% co pebs (dk grn, ang-rnd, pyroclastic), 5% org mat	4	1	28	45	102
86336	soil	20948N 19649E	silt-grav	dk brn, silt-pebs; 20% clay-silt, 50% sd, 25% pebs (ang, dk grn-maroon, pyroclastic)	5	1	26	44	92
86337	soil	20950N 19675E	clay-grav	buff grn, clay-co pebs; 50% clay-silt, 20% sd, 25% pebs (dk grn, ang, pyroclastic), 5% org mat	9	1	27	39	89
86338	soil	20950N 19700E	silt-grav	dk brn, silt-pebs, 20% silt, 40% sd, 30% pebs, 10% org mat	10	1	27	42	96
86339	soil	20950N 19725E	silt-grav	dk brn, silt-pebs; 15% silt, 50% sd, 30% pebs, 5% org mat	7	1	30	59	111
86340	soil	20953N 19750E	silt-grav	dk brn, silt-pebs; 10% silt, 60% sd, 30% pebs (dk grn-maroon), minor org mat, minor qtz sd	5	1	25	48	101
86343	soil	20950N 19775E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 20% pebs (ang, grn-maroon-bleached, pyroclastic, minor silica)	28	1	24	48	91
86344	soil	20950N 19800E	silt-grav	dk brn-blk, silt-pebs; 10% silt, 60% sd, 30% pebs (rnd-ang, dk grn-bleached-oxid, pyroclastic), minor org mat	2	1	25	51	125
86345	soil	20950N 19829E	silt-grav	dk brn, silt-pebs; 15% silt, 55% sd, 25% pebs (ang, pyroclastic), 5% org mat	50	1	22	51	100
86346	soil	20950N 19850E	silt-grav	buff brn, silt-co pebs; 25% silt, 50% sd, 20% pebs, 5% org mat	34	1	32	64	120
86347	soil	20950N 19875E	silt-grav	dk brn, silt-pebs; 15% silt, 65% sd, 20% pebs (oxid, pyroclastic), minor org mat	13	1	26	51	97

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86503	soil	20850N 20425E	clay-grav	dk brn, clay-pebs; 10% clay, 55% sd, 30% pebs (pyroclastic), 5% org mat	90	1	27	41	75
86506	soil	20850N 20400E	silt-grav	gry-brn, silt-pebs; 10% silt, 60% sd, 25% pebs, (pyroclastic, bleached), 5% org mat	8	1	27	39	66
86507	soil	20850N 20375E	sd-grav	gry-brn, sd-pebs, 60% sd, 40% pyroclastic pebs, minor org mat	42	1	29	30	72
86508	soil	20850N 20350E	silt-grav	gry-brn, silt-co pebs, herterolithic, major pyroclastic, 20% silt, 60% sd, 20% pebs, minor org mat	28	1	22	31	65
86509	soil	20850N 20335E	silt-grav	dk brn, silt-co pebs; 10% silt, 70% sd, 20% pebs (pyroclastic, red-grn)	171	1	28	33	74
86514	soil	20852N 20300E	silt-grav	med brn, silt-co pebs; 15% silt, 60% sd, 25% pebs (ang-rnd, predom grn pyroclastic), minor org mat	34	1	26	32	71
86517	soil	20850N 20250E	silt-grav	dk brn-gry, silt-pebs, 10% silt, 70% sd, 20% pebs	40	1	22	34	69
86518	soil	20850N 20225E	silt-grav	buff brn, silt-co pebs, heterolithic; 35% silt, 30% sd, 35% pebs (ang-rnd, grn pyroclastic)	42	1	20	28	67
86519	soil	20850N 20200E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 23% pebs, 2-3% org mat	21	1	25	35	72
86520	soil	20850N 20175E	silt-grav	dk brn, silt-co pebs; 10% silt, 60% sd, 25% pebs, 5% org mat	20	1	34	37	77
86522	soil	20850N 20150E	silt-grav	buff brn, silt-pebs; 60% silt, 20% sd, 20% pebs (and, dk grn), minor org mat	18	1	20	30	70
86523	soil	20850N 20125E	silt-grav	med-dk brn, silt-co pebs, heterolithic; 10% silt, 60% sd, 30% pebs (pyroclastic, ang, grn)	18	1	31	43	85
86524	soil	20850N 20100E	silt-grav	buff brn, silt-co pebs; 30% silt, 50% sd, 20% pebs (red-grn, pyroclastic)	48	6	25	35	72
86601	soil	20950N 20425E	silt-grav	dk gry, silt-pebs; 15% silt, 60% sd, 25% co pebs (ang, dk grn, minor qtz frags, pyroclastic), minor org mat	47	1	29	32	74
86602	soil	20950N 20450E	silt-grav	buff brn, silt-co pebs; 50% silt, 10% sd, 40% pebs (dk grn-maroon, ang pyroclast, minor qtz frags), minor org mat	27	1	24	36	77
86603	soil	20950N 20475E	silt-grav	dk brn, silt-pebs; 10% silt, 60% sd, 30% pebs (ang, dk grn, epi'd, oxid), minor org mat	88	1	27	36	73

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86604	soil	20950N 20500E	clay-grav	gry, clay-pebs; 70% clay, 15% sd, 15% pebs (ang, dk grn pyroclastic), minor org mat	34	1	23	36	77
86605	soil	20950N 20525E	clay-grav	buff gry, clay-pebs; 70% clay, 10% sd, 20% co ang pebs (dk grn, pyroclastic)	52	1	22	36	82
86606	soil	20950N 20550E	silt-grav	dk brn, silt-pebs; 20% silt, 50% sd, 25% ang pebs (dk grn, epi'd, pyroclastic), 5% org mat	28	1	21	28	65
86607	soil	20950N 20575E	silt-grav	dk brn, silt-pebs; 15% silt, 50% sd, 30% pebs (dk grn, oxid, ang, bleached, epi'd, pyroclastic)	39	1	22	31	66
86608	soil	20950N 20600E	silt-grav	dk brn, silt-pebs; 15% silt, 50% sd, 30% pebs (dk grn, oxid, ang, bleached, epi'd, pyroclastic)	35	1	22	28	68
86609	soil	20950N 20625E	silt-grav	dk brn, silt-pebs; 15% silt, 50% sd, 30% pebs (dk grn, oxid, ang, bleached, epi'd, pyroclastic)	44	1	26	45	79
86610	soil	20950N 20650E	silt-grav	dk brn, silt-pebs; 15% silt, 50% sd, 30% pebs (dk grn, oxid, ang, bleached, epi'd, pyroclastic)	46	1	55	48	93
86611	soil	20950N 20675E	silt-grav	dk brn-blk, silt-pebs; 5% silt, 70% sd, 15% pebs (dk grn-maroon, ang, pyroclastic), 10% org mat	162	1	18	27	55
86612	soil	20950N 20700E	silt-grav	dk brn, silt-pebs; 15% silt, 50% sd, 30% pebs (dk grn, oxid, ang, bleached, epi'd, pyroclastic)	64	1	21	33	64
86613	soil	20850N 20700E	silt-grav	dk brn, silt-pebs; 10% silt, 60% sd, 30% pebs (dk grn-oxid-maroon, pyroclast, ang, minor qtz), minor org mat	105	1	38	37	69
86615	soil	20850N 20675E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 25% pebs (ang, maroon-grn, pyroclastic), minor org mat	135	1	90	42	88
86616	soil	20850N 20650E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 25% pebs (ang, maroon-grn, pyroclastic), minor org mat	77	1	47	35	72
86617	soil	20850N 20625E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 25% pebs (ang, maroon-grn, pyroclastic), minor org mat	395	1	549	30	98
86618	soil	20847N 20600E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 25% pebs (ang, maroon-grn, pyroclastic), minor org mat	27	1	34	38	74

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86619	soil	20850N 20575E	silt-grav	dk brn, silt-co pebs; 15% silt, 60% sd, 25% pebs (ang, maroon-grn, pyroclastic), minor org mat	30	1	27	40	81
86621	soil	20850N 20525E	silt-grav	dk brn, silt-pebs; 20% silt, 50% sd, 25% pebs (dk grn, ang, pyroclastic, minor oxid), 5% org mat	44	1	20	31	61
86622	soil	20850N 20500E	silt-grav	dk brn, silt-pebs; 15% silt, 60% sd, 25% pebs (dk grn, ang, pyroclastic, minor oxid), minor org mat	62	1	23	28	58
86623	soil	20850N 20475E	silt-grav	dk brn, silt-pebs; 15% silt, 60% sd, 20% pebs (dk grn, ang, pyroclastic, minor oxid), 5% org mat	21	1	23	33	62
86624	soil	20850N 20075E	silt-grav	dk brn, silt-pebs; 15% silt, 60% sd, 20% pebs (dk grn, ang, pyroclastic, minor oxid), 5% org mat	42	1	30	35	64
86626	soil	20850N 20050E	silt-grav	dk brn, silt-pebs; 15% silt, 65% sd, 15% pebs (dk grn, ang, pyroclastic, minor oxid), 5% org mat	15	1	34	44	75
86627	soil	20850N 20025E	silt-grav	dk brn, silt-pebs; 15% silt, 60% sd, 25% pebs (dk grn, ang, oxid, alt'd pyroclastic)	11	1	31	45	79
86628	soil	20850N 20000E	silt-grav	dk gry, silt-pebs; 50% silt, 20% sd, 30% pebs (maroon-grn, ang, pyroclastic, oxid, epi'd), minor org mat	8	1	27	37	69
86629	soil	20847N 19976E	silt-grav	dk gry, silt-pebs; 30% pebs (ang, dk grn, pyroclastic), minor org mat	7	1	26	34	65
86632	soil	20850N 19950E	silt-grav	buff grn, silt-co pebs; 30% silt, 40% sd, 30% pebs (ang, grn-maroon-oxid, al-jar, silicious mat), minor org mat	8	16	23	40	76
86633	soil	20850N 19925E	silt-grav	buff grn, silt-co pebs; 30% silt, 40% sd, 30% pebs (ang, grn-maroon-oxid, al-jar, silicious mat), minor org mat	7	1	24	37	71
86634	soil	20859N 19900E	silt-grav	buff brn, silt-pebs; 60% silt, 20% sd, 20% pebs (ang, grn-maroon-oxid, al-jar, silicious mat), minor org mat	15	1	25	38	66
86635	soil	20850N 19875E	silt-grav	dk brn, silt-pebs; 10% silt, 70% sd, 20% pebs (grn-maroon-oxid, pyroclastic), minor org mat	10	1	28	37	75
86636	soil	20850N 19850E	silt-grav	dk brn-blk, silt-pebs; 15% silt, 50% sd, 40%	5	1	21	36	80

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				pebs (dk grn-maroon, bleached, pyroclastic, ang), minor org mat					
86637	soil	20850N 19825E	silt-grav	dk brn-blk, silt-pebs; 15% silt, 50% sd, 40% pebs (dk grn-maroon, bleached, pyroclastic, ang), minor org mat	8	1	26	45	76
86638	soil	20850N 19800E	silt-grav	med brn, silt-pebs; 50% silt, 20% sd, 30% pebs (ang, dk grn, epi'd, bleached, alt'd)	6	1	21	36	67
86639	soil	20850N 19775E	silt-grav	grey-buff, silt-pebs; 40% silt, 30% sd, 30% pebs (dk grn-maroon, pyroclastic, ang), minor org mat	10	1	25	33	67
86641	soil	20850N 19750E	silt-grav	buff brn, silt-pebs; 10% silt, 60% sd, 30% pebs (grn-maroon, ang, pyroclatic), minor org mat	8	1	22	35	79
86642	soil	20850N 19725E	silt-grav	lt gry, silt-pebs; 60% silt, 20% sd, 20% pebs (maroon-oxid, minor qtz, ang, pyroclastic)	1	1	27	35	92
86644	soil	20850N 19700E	silt-grav	lt gry, silt-pebs; 50% silt, 30% sd, 20% pebs (dk grn-maroon, ang, pyroclastic, minor qtz)	6	1	19	27	69
86646	soil	20850N 19673E	silt-grav	gry-brn, silt-pebs; 15% silt, 30% sd, 35% pebs (grn-maroon-rusty, pyroclastic)	5	1	24	31	77
86647	soil	20850N 19629E	silt-grav	dk brn, silt-pebs; 20% silt, 50% sd, 40% pebs (grn-wht-maroon, qtz & pyroclastic, some well oxid)	8	1	25	39	96
86649	soil	20850N 19625E	silt-grav	dk brn, silt-co pebs; 20% silt, 60% sd, 20% pebs (maroon-grn, pyroclastics), minor org mat	2	1	27	42	103

GRID B SAMPLES - NORANDA NORTH GRID EXTENSION - B ZONE

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86147	chip 2 m		mineralized pyroclastic	fr: dk grn, wh: rsty-brn-pple, f matrix with clasts to 2 cm, fracts 80/60S; 65% silica, 10% f feld phenos, 10% ser, 10% chl, 4% py, 1% cpy	5550	550	3920	113	302
86148	chip 1.5 m	contig to 86147	pyroclastic	fr: dk grn to mottled wht, wh: brn-blk, Mn stain, stwk of qtz with py; 70% silica, 15% feld phenos to 1 mm, 10% chl, 5% ser, tr py, wk al-jar	1095	35	650	22	88
86149	chip 2 m	contig to 86703	mineralized pyroclastic	fr: dk grn, wh: dk grn, f, frags to 3-4 cm, feld porphy, fracts 300/60NE, minor azurite; 57% silica, 20% feld phenos, 15% ser, 5% chl, 2% py, 1% cpy	1890	300	2090	20	101
86321	chip 1 m	10210N 10325E	mineralized pyroclastic	fr: dk grn, wh: dk grn-Mn stain-dk brn, f, equi gran, sugary, frags to 5 cm; 45% silica, 20% ser, 10% chl, 5% qtz-carb, mal stain, minor al-jar	1140	200	1.293%	37	146
86322	chip 0.5 m	contig to 86321 10209N 10325E	mineralized pyroclastic	fr: dk grn, wh: rsty-brn-orng-pple, Mn stain, mal stain, f-co grain, 30% frags; 70% silica, 15% ser, 5% chl, 7% py, 3% cpy	304	1025	1.920%	48	73
86323	chip 1 m	contig to 86322 10208N 10325E	mineralized pyroclastic	fr: dk grn, wh: dk grn, slightly feld porphy, clasts to 3 cm; 60% silica, 20% feld phenos, 10% ser, 5% chl, 2% py, tr cpy	48	38	180	26	117
86701	chip 2 m	10220N 10325E	alt'd pyroclastic	fr: dk grn, wh: brn-grn, f, frags to 5 cm; 60% silica, 15% feld phenos to 2 mm, 15% ser, 10% chl, tr py	23	9	16	18	91
86702	chip 1 m	contig to 86701 10221N 10326E	sil'd pyroclastic	fr: dk grn with grn-maroon clasts to 5 cm, wh: rsty brn-orngy pple; 70% silica, 10% ser, 5% chl, 12% py, 3% cpy, minor mal stain	1640	775	2700	36	77
86703	chip 1 m	contig to 86702 and 86149 10223N 10327E	alt'd pyroclastic	fr: dk grn, wh: grn-Mn stain-brn, minor carb veining; 60% silica, 20% ser, 15% chl, 3% carb, 2% f diss py	5	17	38	24	113

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86704	chip 2 m	10233N 10311E	alt'd pyroclastic	fr: dk grn-wht, wh: dk grn-rsty brn, str mal stain, qtz-carb stwk to 5 cm wide, 50-80 cm vein; 70% silica, 15% ser, 10% qtz-carb, 4% py, 3% cpy	985	200	4120	31	117
86705	chip 2 m	contig to 86704 10232N 10309E	alt'd pyroclastic	fr: dk grn-wht, wh: grn rsty-brn, Mn stain, stwk str dev to 3-4 cm wide with cpy & mal fillings, str mal stain; 60% silica, 15% ser, 15% qtz-carb, 3% cpy, 2% f diss py, cpy assoc with qtz-carb	211	47	1.635%	30	161
86706	chip 1.5 m	contig to 86705	alt'd pyroclastic	fr: dk grn-wht, wh: grn rsty-brn, Mn stain, stwk str dev to 3-4 cm wide with cpy & mal fillings, str mal stain; 60% silica, 10% ser, 15% qtz-carb, 3% cpy, 7% f diss py, cpy assoc with qtz-carb	1300	550	5250	156	103
86707	chip 1 m	contig to 86706	alt'd pyroclastic	fr: dk grn-wht, wh: grn rsty-brn, Mn stain, stwk mod dev to 3-4 cm wide with cpy & mal fillings, str mal stain; 60% silica, 18% ser, 15% qtz-carb, tr cpy, 2% f diss py, cpy assoc with qtz-carb	22	15	48	23	115
86708	chip 2 m	10248N 10386E	qtz-carb vein/stwk	fr: wht-mottled grn, wh: dk grn-wht-rsty brn, vuggy on wh surf, f-co grain, qtz-carb vein with inclusions of pyroclastic; 70% silica, 10% ser, 5% carb, 7% f-co py, 5% cpy as blebs & patches, 3% chl	1650	400	9670	25	109
86710	chip 1 m	contig to 86708 10247N 10386E	massive sulfide vein & stwk	fr: met brnz, wh: rsty brn-pple, f-co grain; 30% cpy, 20% py, 30% qtz-carb, 20% pyroclast frags, mal stain, fragmental tex	3255	5000	6.050%	68	58
86711	chip 1.5 m	contig to 86721 10250N 10287E	pyroclastic with stwk	fr: dk grn-wht, wh: rsty brn-orng, f-co grain; 55% silica, 5% carb, 10% ser, 5% chl, 10% cpy, 5% py, massive sulf vein/stwk, mod hem	1220	600	3.980%	36	109
86712	rock		check 2		24	21	14	195	446
86718	ang boulder	10241N 10294E	pyroclastic with stwk	fr: dk grn-wht, wh: rsty brn-orng, f-co grain; 55% silica, 5% carb, 10% ser, 5% chl, 10% cpy, 5% py, massive sulf vein/stwk, mod hem, str mal stain	4700	700	1.630%	26	63
86719	ang boulder	10241N 10293E	pyroclastic with stwk	fr: dk grn-wht, wh: rsty brn-orng, f-co grain; 55% silica, 5% carb, 10% ser, 5% chl, 10% cpy, 5% py, massive sulf vein/stwk, mod hem, str mal stain	4800	550	7400	25	64
86720	ang boulder	10242N 10294E	massive sulf	fr: dk grn-wht, wh: rsty brn-orng, f-co grain; 60% py, 25% cpy, 15% alt'd pyroclastics	4490	1875	6.030%	45	76

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86721	chip 2 m	contig to 86711 & 86708 10248N 10287E	pyroclastic with stwk	fr: dk grn-wht, wh: rsty brn-orng, f-co grain; 62% silica, 5% carb, 10% ser, 5% chl, 3% cpy, 5% f-co diss py, mod sulf vein/stwk, mod hem	2980	325	4140	23	62
	STREAM SAMPLES								
86709	stream		silt-grav	dk brn, silt-co pebs; 15% silt, 15% sd, 65% co pebs (dk grn & ang frags), 5% org mat	94	1	775	56	113

November 11, 1994

FALL CREEK ZONE, TODD CREEK PROPERTY

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86093	float		massive sulfide	orngy-brn gry-wht, f-co, granular, vuggy, stringers veinlets qtz, gry-wht qtz as phenos (porphy); 80% py, 10% qtz, 5% barite, minor carb, blebs & diss veins of co grain py, veins of oxid mat assoc with fracts, well lim on wh & fr	400	1925	160	105	139
86094	float		sulf matrix breccia	fr: dk grn wh: brnz mot-rusty pple, vf, equi gran, co brecc'd, ang frags to 30 cm in sulfide (py) matrix; 50% silica, 20% chl, 30% py (v co grain, diss & massive)	69	300	21	36	48
86095	composite 0.5 m		andesite-dacite	fr: med gry, wh: rsty brn-pple, f, equi gran, light shrearing 280/85S; 40% silica, 20% feld, 20% ser, 10% chl, 10% f diss py	6	72	31	44	52
86096	boulder	5 m W of 86095	alt'd dacite	fr: med gry, wh: rsty brn-pple, f, equi gran, lt sheared; 60% silica, 20% ser, 10% chl, 10% f-co diss py	10	42	11	19	36
86097	boulder 4 X 3m	60 m W of 86096	rhyolite	fr: blu-gry, wh: rsty-pple-brn, aphan, crypto cryst; 70% silica, 10% chl, 10% f-co diss py, 5% ser, 5% qtz-carb	105	400	76	39	81
86098	float	3 m E of BL	rhyolite	fr: med-gry, wh: rsty orng-brn pple, aphan, crypto cryst; 75% silica, 15% f-co diss py, 5% chl, 5% ser	21	38	10	18	14
86099	boulder 2 X 3 m	on BL 20 m from fall creek	qtz veined rhyolite	fr: med gry-wht, wh: wht-pple-brn, f, sugary, whispy veins & veinlets, 50% qtz-carb veins, 50% rhyolite (70% silica, 20% f-co diss py, 10% chl)	8	43	8	12	13
86100	rock		check 2		10	18	7	197	436
86101	float	100 m W of BL	rhyolite	fr: blu-gry, wh: rsty-brn, aphan, crypto cryst; 70% silica, 10% ser, 10% f diss py, 5% chl	1	9	13	32	17

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86102	float		rhyolite	fr: lt-med gry, wh: gry-yell-red, hem, lim, aphan, crypto cryst, massive; 80% silica, 15% f-med diss py, 5% ser	23	28	81	21	23
86103	float		hbld porphy	fr: lt buff-gry, wh: cream-brn rust, f, porphy, hbld phenos to 4 mm, massive; 70% silica, 20% hbld, 5% chl, 3% ser, 2% f diss py	3	22	44	23	111
86104	composite 4 m		rhyolite	fr: lt gry, wh: gry orngy-brn/red, aphan, crypto cryst, massive; 80% silica, 13% chl, 5% ser, 2% py, hem, lim	6	12	5	9	35
86105	float		qtz-barite vein	fr: cream-wht, wh wht buff-rsty brn, v co, mottled vein mat; 50% barite, 40% silica, 7% chl, 1% f diss py, 2% ser	2	2	4	22	33
86106	boulder 3 X 2 m		rhyolite	fr: med grn-gry-wht, wh: grn-rsty orng, vf, sugary, massive, minor veining; 70% silica, 15% f diss py, 10% chl, 5% ser, qtz-barite veins to 1 cm wide, tr py in veins	16	32	19	32	57
86107	boulder 1 X 1 m		rhyolite	fr: buff gry, wh: rsty brn pple, f, sugary, massive; 70% silica, 15% ser, 10% f-med diss py, 5% chl	37	41	9	14	31
86108	boulder		rhyolite	fr: lt blu-gry, wh: rsty orng-pple yell, al-jar stain, aphan, crypto cryst, massive; 80% silica, 10% ser, 7% f-med diss py, 3% chl	15	12	13	10	13
86109	boulder		rhyolite	fr: lt gry, wh: rsty brn-pple, aphan, crypto cryst, massive; 80% silica, 15% f-med diss py, 5% ser	63	103	11	19	25
86110	float		massive co cpy	50-60% cpy, 10-20% qtz, 10% py, cpy as matrix replacement, minor carb, Cu blooms(mal)	1420	55	16750	30	30
86351	composite 1 m		prop alt'd purple vol	fr: pple, wh: orngy pple-gry, f-med grain, gran, slickenslide surfaces of chl, well fractured, vein & fract fillings of fuchsite with cal; 40-50% chl, 10% cal, minor sulfs, well sil'd	2	4	22	22	93
86358	float	left junct	alt'd vol	grn-wht, f-med, granular, vuggy, well dev stwk qtz cal, brecc'd, lim on wh, epi, f grn-gry mv host, qtz cal stwk, mod carb, 1-2% f diss py, ser with fracts & as coats	17	31	10	15	32

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86364	composite 5 m		sil'd vol	buff-orngy brn- gry wh, f, sil'd, sugary, gran, vuggy, blebs diss qtz & in vugs, tr cpy, tr sph, py, stwk of lim, stringers & blebs cal; 85% qtz, 10% cal, to 3-4% sulf (py), oxid mat, shear 20	38	46	105	17	33
86368	boulder	80m from ice creek	alt'd mv	orngy brn, f-med, gran, porphy, schist, well lim locally, buff grn pk qtz stwk, matrix ser qtz, phenos of gry qtz, ser, 2-3% py, tr cpy	36	30	98	19	28
86371	rock		check 2		1	17	7	195	441
86559	grab	20050N 19915E El 4440	pyroclastic Type 1	fr: gry-grn, wh: orngy-brn gry-blk, f, wh phenos of qtz in sil'd matrix, to 10% py, mod carb'd; 85% qtz, 10% py, 5% oxid mat, 2-3% cal	6	28	14	23	14
86584	composite 0.5 m		pyroclastic Type 2	fr: grn-wht, wh: orngy buff brn, f, wk-well sil'd, sugary, gran, blebs & veins of calcite & chl, qtz veins & diss, chl on fract with cal veins; 70% qtz, 10% cal, 10% chl, 2-3% diss py, oxid mat	33	24	18	16	15
86585	composite 1 m		pyroclastic Type 2	as 86584; cal 1-2% -veins smaller, stringers of qtz & oxid mat, py in vugs with cal & qtz, sugary matrix with 2-3% diss py, py locally to 10%; 80% qtz, fuch, 10% oxid mat, 5% chl, 5% cal	35	80	38	18	32
86587	boulder	20350N 19865E	pyroclastic and chl schist Type 1	fr: grn-gry, wh: orngy brn-yell, well lim on surf, Mn stain, 5-10% py in veinlets, diss & blebs, veins to 5 cm of qtz carb, 60% qtz-carb, 30% chl	180	82	51	46	57
86591		at 86590	pyroclastic Type 3	fr: grn-gry, wh: grn-gry, porphy tex, brecc'd, schistose - chl schist, sugary, T3 tuff with phenos of qtz & laths of feld; 50% qtz, feld, 40% chl, 5% cal as coatings& diss, 3-4% diss py, 3% oxid (lim) mat on surf	2	14	28	24	79
86593		5 m below 86592	pyroclastic Type 1	fr: grn-gry, wh: orngy brn-gry blk, f, sugary; to 5% diss py, 80% qtz, minor carb, 10% oxid mat, sulfs	34	23	10	9	7
	STREAM SAMPLES								
86352	stream	at 86351	H sd	gry-brn, f, well sort; 70% qtz, 30% oxid mat, epi, wh cal, pk cal, < 1% mag	16	1	24	34	82

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86353	stream	835 m from ice creek	clay-sd	brn, clay-f, well sort, clay, silica sd, with oxid mat	6	1	23	28	74
86354	stream	945 m from ice creek	H sd	brn, f-med, well sort; 65% qtz, epi, oxid mat, wh cal	8	1	25	33	95
86355	stream	EL 3220	H sd	brn, f-med, well sort; 65% qtz, epi, oxid mat, wh cal	9	1	28	41	99
86356	stream	trib to main stream	H sd	brn, f-co, well sort, ang frags of wht-grn qtz, epi, wh carb, oxid mat, minor mag,	2	1	21	22	68
86357	stream	1150 m from ice creek	sd-grav	brn, f-pebs, well sort; 50% frags of gry-grn qtz, epi, oxid, cal, mafic aglom (sil'd), 5-10% carb	5	1	24	45	87
86359	stream	main stream 600 m from ice creek	H sd	brn, f-med, well sort, qtz, oxid mat, minor mag, wh cal, grn epi	16	1	26	40	86
86360	stream		H clay sd	brn, 80% brn clay, 20% f qtz sd, oxid mat, frags mv, wh cal	3	1	20	28	64
86361	stream		H sd-grav	brn, f-pebs, poor sort, 80% oxid mat, frags of cal, pebs of cal, sil'd, oxid mat, 20% f qtz sd	22	1	23	35	90
86362	stream		H sd-grav	brn, f-pebs, well sort, 80% oxid mat, frags of cal, pebs of cal, sil'd, oxid mat, 20% f qtz sd	27	1	21	27	72
86363	stream	tributary to main stream	clay-sd	brn, clay-co; 60% clay, 40% f sd of qtz, cal epi, oxid mat, ang frags	9	1	29	38	94
86365	stream	beside 86364	H sd	brn, f-med, well sort, 80% f qtz sd, oxid mat, wht orng cal, minor epi, 2-3% gry oxid mat	4	1	23	26	76
86366	stream	tributary to main stream 140 m from ice creek	H sd	orngy-brn gry-wht, f-co, well sort, ang frags mv, qtz, cal, epi, oxid mat	30	1	92	30	71
86367	stream	10 m up stream	clay-sd	brn, clay-f, well sort, 60% f sd (qtz, oxid mat, grn-gry mv, brn ankerite, min wht cal)	17	1	84	30	76
86369	stream	10 m down stream from 86368	H sd	brn, f-co, poor sort; 40% ang frags (oxid py rock, sil'd, 1-2% f diss py), 60% sd (f-co, qtz), oxid mat, wht cal	121	1	115	24	72
86370	stream		check 2		3	14	24	22	80

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86558	stream	20050N 20050E EL 4440	H sd-grav	brn, f-pebs; 70% pebs T2 oxid, T3, 30% oxid mat, sd, qtz	178	17	45	18	57
86560	stream	20050N 18995E	H caly-sd	brn, clay-co, well sort; 50% clay, 50% sd (oxid mat, T1 & T2, gry grn wht qtz, wht cal)	41	387	88	27	60
86583	stream	EL 3780	H sd-grav	orngy-brn, f-pebs, poor sort, ang frags of T1, T2 & T3, pyroclastic, wh cal, qtz, oxid mat	53	203	105	30	62
86586	stream	EL 3920 30 m above branch	H sd	orngy-brn, f-co, poor sort, ang frags of oxid mat T1, T2 & T3, ser, wht qtz, wht cal, epi	34	269	102	24	66
86588	stream	20340N 19880E	H sd	orngy brn, f-co, poor sort, oxid mat T1 & T2, gry bl T3, wht qtz, epi, cal, oxid frags with tr py	67	247	110	25	63
86589	stream	20350N 19975E middle of stream	H sd	orngy brn, f-co, poor sort, oxid mat T1 & T2, gry bl T3, wht qtz, epi, cal, oxid frags with tr py	40	33	57	20	54
86590	stream	20350N 28010E	H sd	orngy brn, f-co, poor sort, oxid mat T1 & T2, gry bl T3, wht qtz, epi, cal, oxid frags with tr py	82	18	29	15	64
86592	stream	20350N 20050E	clay-sd	brn, clay-co; 50% clay, 50% f-co sd, 5-10% org mat, pebs grn gry T3, oxid mat, gry wht qtz	36	1	71	37	90
86594	stream		H sd-grav	brn, f-pebs; 60% pebs (T2 & T3), 40% sd (qtz, oxid mat), poor sort	306	1	43	36	77
86595	stream		H sd-grav	brn, f-pebs; 60% pebs (T2 & T3), 40% sd (qtz, oxid mat), poor sort	26	20	5	187	418

NOVEMBER 5, 1994

ICE CREEK ZONE, TODD CREEK PROPERTY

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	ROCK SAMPLES								
86118	grab			fr: lt gry, wh: lt grn-yell bleached-rsty, aphan, crypto cryst; 70% silica, 15% ser, 10% chl, 3% carb, 2% v f diss py	8	9	55	6	7
86119	grab			fr: lt gry grn, wh: creamy buff-yell, sheared, aphan; 60% silica, 30% ser, 6% chl, 2% hem, 3% f diss py	7	4	13	6	7
86120			qtz-cpy vein	fr: med gry-grn, wh: rsty brn, aphan, crypto cryst; 80% silica, 5% ser, 5% chl, 10% cpy, tr hem, tr py, str sil'd	11.63 g/tonne	10	3.38%	39	630
86122	composite 5 m		agglomerate tuff Type 2	fr: grn with pple frags, wh: grn-pple, f matrix with pple vol frags to 5 mm; 64% silica, 20% feld, 10% ser, 5% chl, 1% f diss py	2	3	12	20	185
86123	composite 3 m		alt'd feld porphy tuff/aglom Type 1	fr: lt gry, wh: rsty orng brn-creamy/brn, co grain, feld phenos in a silicious matrix, porphy; 70% silica, 10% feld phenos to 2-3 mm, 15% ser, 4% v f diss py, 1% v f diss cpy	3	20	11	33	58
86124	composite 2 m		alt'd feld porphy tuff/aglom Type 1	fr: lt gry, wh: tan-brn rsty-orng, lt Mn, co grain feld phenos in a silicious matrix, porphy; 70% silica, 10% feld phenos to 2-3 mm, 15% ser, 5% v f diss py, tr cpy	2	7	11	26	24
86125	rock		check 2		2	22	8	192	427
86126	composite 3 m		alt'd feld porphy tuff/aglom Type1	fr: lt gry, wh: rsty orng brn-creamy/brn, co grain feld phenos in a silicious matrix, porphy; 70% silica, 10% feld phenos to 2-3 mm, 15% ser, 4% v f diss py, 1% v f diss cpy, str al-jar staining, mod Mn staining	2	7	11	26	24

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86127	composite 3 m		alt'd feld porphy tuff/aglom Type 1	fr: lt gry, wh: rsty orng brn-creamy/brn, co grain feld phenos in a silicious matrix, porphy; 70% silica, 10% feld phenos to 2-3 mm, 15% ser, 5% v f diss py, tr cpy, str al-jar staining, minor Mn staining	4	5	9	21	14
86128	composite 3 m		alt'd feld porphy tuff/aglom Type 1	fr: lt gry, wh: bleached-lt yell orng-lt brn rust, feld phenos in a silicious matrix, porphy; 60% silica, 20% ser, 10% feld phenos 5% v f diss py, tr cpy, str al-jar staining	1	3	3	13	6
86129	composite 3.5 m		alt'd feld porphy tuff/aglom Type 1	fr: lt gry, wh: bleached-lt yell orng-lt brn rust, feld phenos in a silicious matrix, porphy; 80% silica, 15% ser, 5% v f diss py, tr cpy, wk al-jar staining	2	4	6	12	6
86130	composite 3 m		alt'd feld porphy tuff/aglom Type 1	fr: lt gry, wh: bleached-lt yell orng-lt brn rust, feld phenos in a silicious matrix, porphy; 80% silica, 15% ser, 5% v f diss py, tr cpy, wk al-jar staining	2	7	9	15	8
86131	composite 3 m		alt'd tuff Type 1	fr: med blu gry, wh: rsty brn-blk, Mn stain; 70% silica, 10% feld phenos in an aphan matrix, 12% ser, 8% py (f diss & blebs), tr cpy	3	19	30	32	92
86132	composite 2 m		rhyolite	fr: lt blu-gry, wh: rsty brn-pply blk, str Mn stain, aphan, massive; 80% silica, 5% ser, 7% chl, 8% f diss py	2	20	11	22	18
86133	composite 3 m		alt'd tuff aglom Type 1	fr: creamy gry, wh: pply brn-blk-yell, aphan, crypto cryst, crosses contact between tuff/aglom; 70% silica, 20% ser, 5% chl, 4% f diss py, 1% f diss cpy, wk Mn stain	1	16	9	23	40
86134	composite 3 m	EL 5240	alt'd tuff aglom Type 1	fr: creamy gry, wh: pply brn-blk-yell, aphan, crypto cryst, 70% silica, 20% ser, 5% chl, 4% f diss py, 1% f diss cpy, mod Mn stain, patches al-jar	40	12	27	34	85
86135	composite 4 m	EL 5240	alt'd tuff aglom Type 1	fr: creamy gry-grn, wh: indian red-rsty-yell, aphan, 75% silica, 15% ser, 5% chl, 4% f diss py, 1% f diss cpy, mod Mn stain, patches al-jar	3	11	30	38	290
86136	composite 4 m	EL 5240	alt'd tuff aglom Type 1	fr: creamy gry, wh: pply brn-blk-yell, aphan, crypto cryst, 70% silica, 20% ser, 5% chl, 5% f diss py, tr cpy, mod Mn stain, patches al-jar	4	13	71	33	47

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86137	composite 3 m		alt'd feld porphy tuff Type 1	fr: creamy-grn-gry, wh: rsty orng-pply brn, str Mn stain, feld porphy, feld phenos to 2-3 mm in a f matrix, fracts 118/19S, 95/80N; 60% silica, 15% feld, 15% ser, 9% py, 1% cpy	2	18	29	39	108
86139	composite 4 m		alt'd tuff aglom Type 1	fr: lt grn-gry, wh: rsty-orng, aphan, crypto cryst, massive; 70% silica, 20% ser, 2% chl, 8% py, tr cpy	3	14	32	24	35
86140	chip 0.15 m width		Cu-qtz vein	fr: lt blu gry-grn, wh: rsty orng-pply blk, str Mn stain, Mal stain, aphan, crypto cryst, 15 cm vein 160/vert(W), high grade sample along 3 m exposed length of vein; 65% silica, 20% ser, 5% cpy, 5% py, 5% chl	13.18 g/tonne	11	3.275%	31	426
86141	chip 1m		alt'd pyroclastic with Cu-qtz vein	fr: lt blu gry-grn, wh: rsty orng-pply blk, str Mn stain, Mal stain, aphan, crypto cryst, 15 cm vein 160/vert(W) in 86140, 70% silica, 20% ser, 3% cpy, 2% py, 5% chl	3450	19	8820	28	333
86401	panel 2 m X 2 m		sil'd pyroclastic wall rock Type 2	orngy-brn, gry-blk, f-co, vitreous lustre, porphy, f grained sugary matrix of 80% qtz, phenos of qtz, feld, wk oxid (lim), frags to 35 cm, various comp incl qtz-feld porphy, oxid, dacitic-rhy, 1-2% mag	33	2	224	36	349
86402	panel 2.5 m X 2 m		alt'd pyroclastic Type 1	fr: gry wht, wh: orngy brn-yell, f, vitreous, sugary; 40% matrix (90% qtz, ser, gry wht & grn qtz, to 3-5% f py, minor veinlets, tr cpy, mod-well lim (patchy), well fract, 60% frags to 25 cm, chl along fracts to 5%, main alt is ser & qtz, well sheared to ser schist	6	6	52	29	47
86403	panel 2 m X 2 m		alt'd pyroclastic Type 1	as 86402; less sheared & alt'd, matrix f sugary qtz ser, fracts with wht cal & as diss, 3% f diss py & tr cpy	4	7	37	27	65
86404	panel 2 m X 2 m	EL 5300	alt'd pyroclastic Type 1	fr: gry-wht-grn, wh: orngy-brn, f, sugary, vitreous,; 70% qtz, 10% ser, 10% sulfs, 5% chl on fract, 5% carb, oxid mat, well lim on surf, well sil'd, wk-mod carb'd, sheared 20/42E, tr cpy	2	4	42	23	35
86405	panel 3 m X 2 m		alt'd pyroclastic Type 1	fr: grn-gry-wht, wh: orngy-brn, sugary, well sheared -some as ser schist, bleached, al-jar, well lim, vuggy; 40% qtz & 40% ser schist, 2-3% diss sulfs, py, locally well sil'd	1	8	13	28	22

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86406	panel 2.5 m		alt'd pyroclastic Type 1	fr: grn-gry-wht, wh: orngy-brn, sugary, well sheared -some as ser schist, bleached, al-jar, well lim, vuggy; 40% qtz & 40% ser schist, 2-3% diss sulfs, py, locally well sil'd	1	16	11	26	15
86407	float composite		alt'd pyroclastic Type 1	fr: grn-gry, wh: orngy-brn, matrix (f, sugary, earthy, vuggy, well lim, 2-3% diss py, euh, well sheared), 60% qtz, 30% ser schist, 10% oxid mat & sulfs, 2-3% chl on fact, wk carb'd	1	10	12	28	17
86409	panel 3 m X 3 m		alt'd pyroclastic Type 1	fr: grn-gry, wh: orngy-brn, f, sugary, earthy, vuggy, well lim on wh, well chl on fract, 1-2% diss py, sheared ser schist, 90% qtz, ser, 10% oxid mat, minor cal, 1-2% sulfs (py), well sil'd	2	12	10	27	35
86410	panel 4 m X 2 m		alt'd pyroclastic Type 1	as 86409; py to 8%, frags of tuff mat, tr cpy, 80% qtz ser schist, 20% py, well lim, more cal streingers, some wht phenos of qt, Mn stain	6	17	27	84	90
86411	panel 2 m	contig to N of 86410	alt'd pyroclastic Type 1	fr: grn-gry, wh: orngy-brn, f, vuggy, earthy, wk-mod lim on wh, porphy tex-phenos of wht qtz, feld, veins of wh qtz & cal & lim to 1 cm, blebs & diss of wht cal, well sheared, mod chl'd; 70% qtz chl, 30% lim, cal, to 10% f py, Mn stain	7	8	31	72	195
86412	talus	10 m N of 86404	ser schist Type 1	fr: gry-wht, wh: orngy-brn yell, well sheared, f, gran, 90% ser, 10% lim, 3-4% diss f py, py is euh	3	9	9	25	31
86413	panel 3 m X 2 m	contig to N of 86411	alt'd pyroclastic Type 1	fr: grn-gry, wh: orngy-brn, f, prophy tex of cal & wht qtz phenos, 80% ser schist & qtz, well sheared, 2-3% py, str lim, earthy, vuggy on wh, al-jar, Mn stains, to 10% chl on fracts, locally to 15% chl	3	19	29	43	104
86414	panel 4 m X 2 m		qtz-ser schist Type 1	fr: grn-gry, wh: orngy-brn, f, sugary, vuggy on wh with hem, lim, Mn stains, chl on fract, well sheared, some bleached, al-jar; 80% qtz, ser schist & oxid mat, to 10% diss py (f & co in fract fillings), to 20% chl	2	11	28	37	105
86415	panel 5 m X 2 m		qtz-ser schist Type 1	fr: grn-gry, wh: orngy-brn, f, sugary, vuggy on wh with hem, lim, Mn stains, chl on fract, well sheared, some bleached, al-jar; 80% qtz ser schist & oxid mat, to 10% diss py (f & co in fract fillings), to 20% chl	2	9	27	34	123

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86497	boulder	at 86496	pyroclastic Type 1	as 86494; 2-3% diss cpy, mal stain, blebs & diss	4000	64	2500	171	223
86499	composite 1 m	19750N 20080E	pyroclastic Type 2	shear 170/64W to vert, fract 300/120; mod lim, str sil'd, 2-3% diss py, Mn stain, 80% qtz	18	29	576	14	48
86528	composite		pyroclastic Type 1	fract & shears 120/300 vert; well oxid & lim, al-jar, schistose; 50% ser schist, qtz, 50% oxid mat, minor sulf	24	24	17	16	44
86529	composite		pyroclastic Type 1	80% qtz, 10% oxid mat, 5% co py	51	90	43	13	34
86530		EL 4920 contig to S of 86529	fault gouge	5 cm shear, f, clay & chl, well lim, 2-3% oxid sulfs					
86533			Cu zone	as 86494; to 4% mal stain, 2-3% cpy diss	1	45	11	17	16
86534	drill core	19825N 20025E at drill hole J	pyroclastic	grn-gry f, well oxid (lim), frags of var comp, T1 - well sil'd, 2-3% diss py; T2 - to 3-4% sulfs, mod-well sil'd, qtz, ser, fract with chl& lim, minor cal qtz veins	10	9	83	21	71
86536	composite 2 m	19800N 20030E	pyroclastic Type 1	fr: gry-wht, wh: orngy brn-yell, shears, qtz-chl veins to 2 cm, well dev stwk, matrix (sil'd, sugary, f, schistose, 3-4% diss py, tr cpy, along some salvages of vein, vuggy, str Mn stain), 80% f qtz ser, well lim to 5%	72	70	103	19	43
86537	composite 4 m	19803N 20050E	pyroclastic Type 1 Type 2	to 5% diss py, trend 190, shear 45/60W, 90% qtz, gry, cherty, f, 5% diss py, Mn stain, al-jar 90% ser, to 10% diss py, tarnished, irridecent py, Mn stain, al-jar	79	25	24	13	28
86539	composite 4 m	19800N 20070E	pyroclastic Type 1	as 86537; to 10% sulfs	144	79	115	15	31
86540	composite 1 m	19810N 20095E EL 4920	pyroclastic Type 1	fr: gry-grn, wh: orngy brn-yell, Mn stain, well lim, al-jar, frags to 30 cm, ser schist in shears to 2 m wide, v well sil'd; f, sil'd matrix, sugary, to 10% diss py, tr cpy; 85% qtz & ser, 10% sulfs, 5% lim, 2-3% al-jar, chl on fracts, 144/vert, shear 164/80W	106	119	32	17	8
86541	composite 2 m	19810N 20110E	pyroclastic Type 1	90% qtz, ser, 7% diss py, well sil'd, well lim, Mn stain	17	33	74	23	52

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86543		19830N 20120E	pyroclastic Type 1	fr: grn gry, wh: orngy brn-blk; 25% ser schist (orngy brn bl to gry-wht, well bleached, schistose, 2-3% diss py), 85% qtz ser (contains ser schist), 5% diss p, well lim, al-jar, shear 144/vert	49	29	27	19	25
86546	composite 1 m	at 86545	pyroclastic Type 1	fr: grn-gry, wh: orngy brn-yell blk, f, sugary, qtz in qtz ser matrix, well lim, al-jar, Mn stain, vuggy, earthy, frags to 15 cm; 90% qtz, ser, 5% oxid mat, chl on fract, 5% sulfs	20	29	195	24	49
86548	rock	at 547	pyroclastic Type 1 Type 2	orngy grn-gry blk al-jar, well lim, vuggy, well sil'd, qtz, ser, 3-4% diss py wk lim, f, sugary, mod sil'd, 4-5% sulfs	25	32	76	28	33
86551	composite 1 m	at 86549	pyroclastic Type 2 & 3	fr: grn-pk, wh: orng-gry grn, well carb, qtz carb veins with to 5% py, grn-gry sil'd matrix, gran; 70% qtz, 10% cal (pk, wht), 10% carb, sulfs, tr cpy, 5% py, well dev stwk, fract 100 deg	1	17	18	16	52
86552	boulder	at 86459	pyroclastic Type 2	fr: grn-gry-wht, wh: grn-gry, veins of qtz in chl to 30% , matrix (qtz, minor carb, gran, sugary, 3-4% diss py), qtz carb stwk, wk lim on surf, mod sil'd	3	20	15	19	96
86553	composite	19880N 20000E El 4740	pyroclastic Type 1	fract 40/80W, 10% chl schist along fract, 70% sil'd, sheared qtz veins & stwk, oxid mat, to 20% dis py with gry qtz veins	325	39	12	28	21
86554	boulder		pyroclastic Type 1	qtz ser schist, to 7% diss py, wht qtz veins & stwk well dev	2	6	15	19	20
86557	composite	20050N 20000E	pyroclastic Type 1	fr: grn-gry, wh: orngy-brn-gry-blk, f, sugary, mod sil'd, diss of 2-3% euh py, mod carb (2-3%) as veins, blebs & diss, porphy tex, phenos of wht qtz, pk qtz; 80% qtz, 20% cal, sulfs (f, py), oxid mat (lim, Mn stain)	14	57	42	28	46
STREAM SAMPLES									
86121	stream		silt-grav	med brn, f silt-co pebs, heterolithic frags, abundant vol, T1 & T2 pyroclastic	1	1	11	38	124
86138	stream		silt-sd	brn, f silt - co sd, heterolithic	6	1	55	59	180

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
86408	stream		H sd-grav	orngy brn, f-pebs, ang frags of oxid mat, 40% qtz, 40% oxid mat, 10% ser schist, wht cal & feld to 10%, 1% mag	3	16	12	19	73
86423	stream		check 2		67	1	28	27	94
86452	stream	beside 86428	H sd-grav	brn, f-pebs; 20% pebs (ang frags of alt'd pyroclastic, gry blk-orngy brn, sil'd, frags f grain sil'd mat, pebs to 3 cm in f sil'd matrix, 1-2% py), 80% f-co sd (grn qtz, al-jar, gry-blk vol, minor euh bio, grn epi, wht cal, oxid mat)	15	1	100	54	119
86471	stream	19625N 20100E	clay-sd	brn, clay-f; 70% clay, 30% sd (qtz, minor oxid mat, gry-grn vol minor met)	48	1	138	55	113
86473	stream	19655N 20100E	clay-sd	brn, clay-f; 70% clay, 30% sd (qtz, minor oxid mat, gry-grn vol, minor met)	186	1	270	62	144
86475	stream		check 2		20	1	29	31	86
86498	stream	19720N 20100 EL 5020	H clay-sd	brn, clay-f; 70% clay, 30% sd (qtz, minor oxid mat, gry-grn vol, minor met)	3	1	38	52	114
86500	stream		check 2		59	12	22	33	78
86535	stream	19795N 20000E	H sd	brn, f-co, well sort, f qtz sd, oxid mat, ang frags of grn orngy-brn pyroclastic	23	1	42	27	76
86538	stream	19820N 20070E	H clay-sd	orngy-brn, clay-f, well sort; 80% brn clay, 20% f qtz sd, well oxid (lim)	21	21	52	29	84
86542	stream	below 86543	H sd-grav	orngy-brn, f-pebs; 50% pebs (oxid mat, well lim, al-jar, ang, bleached), 50% f-co sd (brn, frags with comp of pebs, qtz grn gry pyroclastic)	304	250	14	16	37
86549	stream	19865N 20000E	H sd-grav	brn, f-co, well sort, qtz, ang frags of grn-gry blk vol, oxid mat, minor wh cal	22	34	55	29	84
86550	stream		check 2		6	1	27	44	70
86555	stream	5 m N of 86553	H clay-sd	orngy brn, clay-f, well sort; 60% brn clay, 40% qtz, oxid mat, ang frags grn vol	62	1	65	42	99
86556	stream	19965N 20005E	H sd-grav	orngy-brn, f-pebs, poor sort; 20% f qtz sd (oxid mat), 80% pebs (oxid mat, grn-gry vol, al-jar, wht qtz)	1	19	37	24	62

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
	SOIL SAMPLES								
86416	soil	4 m W of 86414	sd-grav	yell-gry blk, f-pebs; 50% frags ang of ser schist & cal, lim & al-jar, 50% f-co sd (ser schist, grn sil'd qtz), oxid mat, minor mag, wht cal	14	6	14	24	82
86442	soil	below 86441	H silt-sd	orngy-brn, silt-co; 10% silt, 90% sd (ang frags of oxid mat, 60% grn & wht qtz, 20% ser schist, al-jar, minor wht cal, minor epi)	1	1	30	62	117
86443	soil	below 86434	H silt-sd	brn, silt-co; 95% ang frags (10% ser schist, well sheared, 60% qtz, 20% oxid mat, 10% grn gry vol, gry met, cal, tr epi)	1	1	23	55	182
86451	soil	below 86448	silt-sd	brn, silt-co; 40% silt, 60% ang frags (10% ser schist, 70% grn gry qtz, 20% gry vol, minor met, tr wht barite)	34	1	231	107	168
86461	soil	10 m from 86460 at 26 deg	H clay-grav	gry-brn, clay-pebs; 20% clay, 75% ang frags (60% grn-gry-blk vol, 30% qtz, 10% oxid mat, minor ser), 5% org mat	2	1	17	68	143
86462	soil		silt-grav	brn, silt-pebs; 40% silt (f, qtz), 60% ang frags (wht barite, ser schist, qtz, bry-blk vol, minor gry met, oxid mat)	1	1	20	69	171
86464	soil	EL 5160 at 86463	H sd-grav	orngy-brn, f-pebs; 70% f-co H sd (grn-gry vol, ser schist, oxid mat, qtz), 30% pebs (ser schist & sil'd pyroclastic)	1	1	47	63	140
86466	soil	19650N 20250E EL 5120	silt-sd	brn, silt-co; 20% silt & f qtz sd, 80% ang frags (40% grn-gry blk vol, mod ser schist, minor oxid mat, 30% qtz)	7	1	31	63	201
86468	soil	19700N 20225E	sd	gry-brn, f-co; 70% qtz, 30% sil'd grn-gry vol, minor ser incl orngy-brn ser schist, brn cal, minor gry vol	6	1	26	80	127
86469	soil	15 m from 86468 at 360 deg	H silt-sd	brn, silt-co; 10% silt, 90% ang frags (grn qtz, wht gry qtz, mafic vol, cal, <1% mag, minor al-jar)	11	1	30	74	133
86470	soil	40 m N & 10 m E of 86468	H sd-grav	brn, f-pebs; 5% org mat, 60% ang frags of T3 pyroclastic, oxid mat, 40% qtz & oxid mat	1	1	23	79	164
86485	soil	El 5100 19700N 20125E	H clay-grav	brn, clay-pebs; 20% clay, f, silica sd, 20% ang frags of oxid Type 2 pyroclastic, 60% ang gry-bl vol, oxid mat, wht-grn qtz, tr epi,	3	1	59	56	143

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
				tr barite, minor ser, minor mag					
86487	soil	19690N 20140E	sd-grav	gry-brn, f-pebs; 30% pebs (Type 1, 2 & 3 pyroclastic), 5% organics, 65% ang frags (ser schist, T3 pyroclastic, oxid mat, minor cal, 15% qtz)	1	1	27	64	154
86489	soil	19700N 20156E El 5100	silt-grav	orngy-brn, silt-pebs; 30% ang frags of T1, 2 & 3 pyroclastic, 20% silt, 50% ang frags of lim ser schist & wh qtz	26	1	66	60	142
86491	soil	19700 20175E	silt-grav	gry-brn, silt-pebs; 5% org mat, 30% silt, 10% pebs (T3 pyroclastic), 55% ang frags (T2 & 3 pyroclastic, qtz, ser schist, minor euh bio, minor gry met)	9	1	37	80	211
86531	soil	19750N 20150E	H silt-grav	orng-brn, silt-pebs; 70% pebs (ang frags of ser schist, minor qtz, well lim, vuggy, al-jar, to 3% diss py), 30% well lim qtz sd	143	1	106	1	45
86532	soil	19755N 20120E	clay-grav	brn, clay-pebs; 30% silt, 55% silt-sd & ang frags of T3 pyroclastic rock (10% ser schist, grn-gry qtz, minor gry met, minot cal, tr epi), 5% pebs (T2 pyroclastic), 10% org mat	2	1	35	67	130
86544	soil	19800N 20125E	H silt-sd	orngy-brn, silt-co; 40% silt, 60% oxid ang frags of T1, T2 & T3 pyroclastic	25	1	68	41	88
86545	soil	19800N 20150E El 5020	H silt-sd	orngy-brn, silt-co; 40% silt, 60% oxid ang frags of T1, T2 & T3 pyroclastic	21	1	77	48	94
86547	soil	19790N 20170E EL 5040	H silt-grav	brn, silt-pebs; 60% pebs (ang frags of T1, 2 & 3), 40% f qtz sd, oxid mat	9	30	36	28	69

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RECON AREAS, TODD CREEK PROPERTY

SAMPLE NO.	TYPE	LOCATION/ ELEV (FT)	NAME	DESCRIPTION	Au-fire ppb	As ppm	Cu ppm	Pb ppm	Zn ppm
recon in Upper Todd Creek Delta area									
86112	stream		silt-sd	med gry, silt-co; 50% silt, 50% sd	6	24	34	21	13
86113	stream		H sd	gry-brn, med-co, tr org mat, heterolithic	2	2	12	11	10
86114	stream		sd-grav	red-brn-orng, med-pebs	1	17	19	15	20
86115	stream		silt-sd	brn, silt-f, 2% org mat	2	4	8	14	11
86116	stream		sd-grav	gry-red-grn-brn, f-co pebs, heterolithic frags	1	2	6	11	9
86117	stream		silt-grav	pple-grn-gry, silt-pebs, heterolithic pebs	4	13	24	20	104
86142	float	Pat 11-14 post	aglomerate	fr: dk grn, wh: rsty-brn, feld porphy; 55% silica, 35% feld as phenos to 3 mm, 5% ser, 5% chl, tr py, minor al-jar	1	3	73	14	93
86143	stream	Pat 17 left fork	silt-grav	dk gry, f silt-co pebs; 20% silt, 50% sd (qtz), 30% pebs (dk gry-med grn, sedimentary, pyroclastics)	8	1	38	33	171
86144	stream	Pat 17 right fork	silt-grav	dk gry, f silt-co pebs; 30% silt, 50% sd (ang silica), 20% pebs (blk sedimentary, ang)	4	1	38	36	167
86145	float	Pat 17	sil'd ash tuff	fr: maroon, wh: rsty-red-brn, spheres of silica to 3 mm in a f matrix; 90% silica, 5% chl, 5% ser	2	5	34	14	80
86146	float	Pat 17	sil'd ash tuff	fr: mottled maroon, wh: dk grn-gry, f, silica frags to 2 mm; 75% silica, 10% ser, 10% chl, 3% epi, 2% py, minor carb veining	4	3	14	17	106

Smithers, B. C. and the pulps were sent to Min En's main laboratory in North Vancouver for analysis. The rock and talus samples were analyzed by quantitative methods for Au, As, Cu, Pb and Zn, with multi-element ICP analyses being carried out on the stream sediment and soil samples.

9.1. GEONEX AERODAT HELICOPTERBORNE SURVEY (Appendix 2; Black Line Maps 2; BL1-BL5A,B; Colour Maps C1-C3A,B, C4A, B, C5A-D; C6, C7):

The helicopterborne geophysical survey covered 60 square km (Map BL2) on the original claims (Todd 1-12; Map 2) which were then known as the Vista de Oro property. The survey entailed about 309 line km including 21 km of tie lines flown at a line spacing of 200 m. The Geonex Aerodat report is included as Appendix 2. The airborne program was successful in identifying five broad target areas (Maps 2, BL 2):

i. Virginia Creek Target Area:

The Target Area is located in the northwest corner of the survey area and straddles the heads of American and Virginia Creeks. A potassium channel anomaly is associated with a large zone of iron oxide/clay alteration that outcrops above the treeline. The pyritized mafic volcanic and pyroclastic rocks are very similar to those of interest in the Fall Creek Target Area. The Target Area is associated with a positive magnetic anomaly that is flanked by a northeast trending fault and by a number of weak EM conductors.

ii. Northeast Target Area:

The Northeast Target Area straddles Todd Creek in the northeast corner of the airborne survey block. The Area is associated with a higher background magnetic response including northwest striking higher and lower amplitude magnetic trends. A number of weak EM conductors that represent follow-up targets are located east and west of Todd Creek. There are no radiometric anomalies, although the Area is below the treeline and the vegetation could attenuate any response.

iii. Orange Mountain Target Area:

The Orange Mountain Target area is bounded on the north by an interpreted northwest trending fault, on the southwest by a northwest trending fault and on the south by an interpreted east-west trending fault that follows Fall Creek. Two potassium channel anomalies (Map BL2) occur in the Target Area. The most northerly anomaly is associated with the large zone of iron oxide and clay alteration on Orange Mountain and is flanked to the west, northwest and southeast by positive magnetic anomalies. The second potassium channel anomaly, on

the east side of Todd Creek, has a flanking association with a southeast trending magnetic high. A number of low amplitude magnetic trends generally strike north-south in the area and a number of weak EM conductors flank the northern potassium channel anomaly.

iv. Fall Creek Target Area:

The Fall Creek Target Area, which includes both the Ice Creek and Fall Creek Zones, is located on the south side of Fall Creek and is also characterized by a potassium channel anomaly. The anomaly is centred on the historic Noranda Fall Creek Grid and is somewhat associated with zones of iron oxide alteration hosted by mafic volcanic and pyroclastic rocks. Two prominent northwest trending structures bisect the target area which also hosts a number of generally north striking, lower amplitude magnetic trends. A week EM conductor is located on the northeast flank of the potassium channel anomaly.

v. Mid Zone Target Area:

The Mid Zone Target Area is located in the southwest corner of the property and represents the southern extension of the Fall Creek Target Area. No potassium anomalies are located in the Mid Zone Target Area but it is assigned a high priority based on the very favourable magnetic and gradiometer response that suggests three west and northwest trending faults and a number of apparent structural junctions. The Area includes prospective alteration associated with the Mid Zone (Map 3) on which Noranda carried out historical work. The eastern extension of the Mid Zone Target Area that was not flown is referred to as the South Zone Target Area and covers Noranda's South Zone deposit along with the Knob Zone on the Todd Creek claims (Map 3).

9.2. AERIAL RECONNAISSANCE AND CLAIM STAKING (Map 2):

Based on the apparent success of the Geonex Aerodat survey in identifying target areas, a helicopter geological reconnaissance survey was used to identify a number of additional alteration zones (Map 2) in proximity to the original property. In most cases the zones represent the extension of zones on the original claims or new zones that have the same favourable attributes as those located on the Todd property. The Pat 1-10 and 18 claims were staked to cover the additional targets (Photo 6) and to provide a buffer around known mineralization on the property.

Photo 6: Looking north to alteration zone south of Yellow Bowl Zone

9.3. REVIEW AND COMPILATION OF THE NORANDA HISTORICAL DATA BASE:

In order to facilitate the Phase 1, 1994 exploration program, the historical work carried out by Noranda and Goldnev Resources Inc. in the 1980's was reviewed and compiled as the information became available through assessment work files (not all the assessment work reports were indexed in the government files) and through field observations. A general compilation of most of Noranda's work including grids, diamond drilling and other types of work carried out is summarized on Map 3.

Based on the compilation of historical work relative to targets suggested by the Aerodat survey and targets provided by the new claims that were not flown, it is concluded that many prospective areas remain to be evaluated on the Todd Creek property. For example, the historical work was fairly comprehensive as an initial delineation and evaluation of the gold and gold-copper mineralization on the North and Fall Creek Grids. However, the very encouraging mineralization intersected in the original historical drilling on the Fall Creek Grid as reported under Section 5.f. apparently remains to be followed-up.

The 10 hole follow-up drill program that was carried out by the Goldnev/Noranda joint venture in 1990 focused mainly on IP anomalies (Baerg, 1991). The one hole that was drilled in 1990 on the auriferous zone was apparently collared vertically above (more then 73 m (Baerg, 1991) or perhaps over 100 m as indicated by map contours) and about 125 m to the south of the southernmost hole drilled in 1988. The 1990 hole obviously did not test the possible plunge morphology often associated with much of the mineralization in the Camp or the along strike continuity of the zone on the elevation at or below which it was originally intersected.

A number of the holes that tested the geophysical targets did intersect anomalous gold mineralization (up to 1.35 g Au/t over 15.35 m; see Section 5.f.), thus generating more follow-up targets that remain untested. Most importantly, the source of the main gold soil anomaly, located west of the historical mineralization remains to be fully explained.

The North Zone of the Orange Mountain Target Area also appears to continue to offer interesting gold targets: the A Zone has been traced over a strike length of 320 m and historical drilling that tested the zone over 150 m did return some significant results (Minfile Report 104A 106; Section 5.g. above) that appear to remain open for extension. The B zone and Orange Mountain Grid appear to have never been subjected to IP surveying. Soil sampling does not appear to have been carried out on the North Zone and the strong gold anomalies found in sediment samples from streams draining the Orange Mountain Grid were not apparently explained. Also, the Amarillo Zone and northeast part of the Orange Mountain target area

does not appear to have been evaluated in detail by historical surveys.

9.4 RECONNAISSANCE GEOLOGICAL AND GEOCHEMICAL SURVEYS:

As weather conditions allowed, reconnaissance geological and geochemical surveys were carried out in a number of the Target Areas referenced under section 9.1.:

i. AMARILLO ZONE, ORANGE MOUNTAIN TARGET AREA, TODD 2 CLAIM (Tables 3-5; Maps BL2, 2, 4A-E; Photos 1, 7-13):

Orange Mountain is characterized by a large colour anomaly comprised of limonite and jarosite/alunite alteration on the west side of Todd Creek (Photo 1). The Amarillo Zone (Photo 7) is located about 2 km north of Fall Creek on the east side of Woodcock's Todd 16 claim (2 units located within Geofund's Todd 1, 2 claims). The topography consists of relatively steep grassy slopes (Photo 8) to extensive talus covered areas to gossanous ridges (Photo 9).

The area is underlain by mafic to felsic volcanics (some reported to be trachytes by Woodcock, 1982) and coarse pyroclastic rocks (Photo 10) that are often brecciated (Photo 11) and contain zones of intense alteration (quartz, pyrite, barite, sericite, hematite, jarosite/alunite, chlorite, and epidote; Photo 12) that ranges from propylitic to phyllic (Map 4A). The rocks are well fractured and often contain disseminations, veins and stock workings of pyrite. Boulders of massive to semi-massive pyrite are common as well as euhedral barite. Quartz-barite lenses, veins and stock workings are also common fracture fillings with which galena, sphalerite and chalcopyrite are often associated (Photo 13).

Noranda previously evaluated the Amarillo Zone via a single, north-south soil sample line totalling 1.2 km across the zone. Thirty-one silt and soil samples and two rock samples were collected. However, the 22 soil samples were taken on talus slopes and the results are thus not reflective of underlying potential. The silt samples generally contain anomalous arsenic and zinc values.

During the Phase 1, 1994 program, 108 samples were collected, comprising 65 rock, 25 stream sediment and 18 soils. The rock and talus samples (Maps 4B, C) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 117 ppb, 1 and 2535 ppm, 8 and 12280 ppm, 16 and 23110 ppm and 19 and 130000 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 16 ppb, 358 ppm, 364 ppm, 925 ppm and 2563 ppm, respectively. Using threshold values of 15 ppb Au, 20 ppm As, 60 ppm Cu, 80 ppm Pb and 100 ppm Zn (threshold values researched and utilized on the basis of Geofine's experience in the Stewart Camp), 34% of the gold, 89%

Photo 7: Amarillo zone, Orange Mtn. Target Area - looking southwest to northwest

Photo 8: Amarillo zone - Looking north to TD16 soil location, jarosite/alunite in large creek to the north

Photo 9: Amarillo zone - looking 270 deg from 86231 to source of float/talus

Photo 10: Amarillo zone - coarse pyroclastic rock; upstream from 86207

Photo 11 Amarillo zone - brecciated volcanic below sample 86276

Photo 12: Amarillo zone - oxidized (limonite, jarosite/alunite), sulfidized boulder

Photo 13 Amarillo zone - barite vein to 35 cm wide, sample 86247

of the arsenic, 39% of the copper, 72% of the lead and 66% of zinc values for the rock samples are anomalous.

The highest gold value in the rock samples (117 ppb) and the highest base metal values (up to 1.23% copper, 1.70% lead and 13% zinc were returned from narrow barite veins (Photo 13). The majority of anomalous gold values were returned from altered volcanic rocks (values ranging up to 64 ppb gold, 350 ppm arsenic, 440 ppm copper, 562 ppm lead and 11500 ppm zinc in sample no. 86263).

The stream sediment samples (Maps 4D, E) have gold, arsenic, copper, lead and zinc contents ranging between 2 and 36 ppb, 1 and 628 ppm, 27 and 360 ppm, 76 and 2952 ppm and 209 and 1406 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 10 ppb, 82 ppm, 108 ppm, 353 ppm and 508 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn (threshold values researched and utilized on the basis of Geofine's experience in the Stewart Camp), 36% of the gold values, 64% of the arsenic values, 64% of the copper values, 100% of the lead values and 100% of the zinc values are considered anomalous. The multi-element ICP results also include anomalous silver, barium, cadmium, potassium, cobalt, manganese, antimony and strontium for a number of the stream sediments samples with anomalous gold.

The soil samples were collected near the base of the hill on the east side of the Amarillo Zone as an indication of the metal content of the soils. The soil samples have gold, arsenic, copper, lead and zinc contents ranging between 1 and 13 ppb, 1 and 226 ppm, 10 and 327 ppm, 55 and 695 ppm and 33 and 544 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 4 ppb, 20 ppm, 79 ppm, 258 ppm and 231 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 6% of the gold values, 11% of the arsenic values, 50% of the copper values, 94% of the lead values and 78% of the zinc values are considered anomalous.

The anomalous arsenic, zinc and lead anomalies along with some copper and gold anomalies in the rock and sediment samples and the presence of fairly ubiquitous barite constitutes a geochemical signature that is, in other areas of the camp, indicative of proximal gold mineralization. As an investigation of the signature, it is recommended that uppermost stream sediment samples (86236, 86266 and 86273) taken on the three main creeks draining the gossanous ridges to the west be followed-up. All three samples have anomalous gold, copper, lead and zinc values with the contents of sample 86236 (36 ppb Au, 628 ppm As, 279 ppm Cu, 2952 ppm Pb and 657 ppm Zn) being of particular interest. In-situ rock sample 86263 (64 ppb Au, 350 ppm As, 440 ppm Cu, 562 ppm Pb and 11500 ppm Zn) that is located downstream from stream sediment sample 86266 is recommended for follow-up along with the other anomalous in-situ

rock samples (nos. 86265, 86267 and 86270) in the area. The precise location of the boundary of the Woodcock Todd 16 (Map 1) will have to be ascertained and ideally the property obtained for complete follow-up.

Rock samples (nos. 86293, 86217, 86220) with anomalous gold, arsenic, copper, lead and zinc contents on the most northerly creeks sampled are also recommended for follow-up. Regionally, as summarized in Section 10 of this report, additional work is required in the Orange Mountain Target Area to follow-up the flanking EM anomalies (Map BL2), prospective alteration to the north of the Amarillo Zone and stream sediment anomalies on the Noranda Orange Mountain Grid (Map 3).

ii. AMERICAN CREEK ZONE, VIRGINIA CREEK TARGET AREA, PAT 3 CLAIM (Tables 3-5; Maps BL2, 2, 5A-C; Photos 14-17):

The American Creek Zone is located at the top of American Creek and straddles the east and west sides of the glacier at the head of the creek (Photo 14). The area is underlain by volcanic rocks including andesite, dacite, and fine to coarse pyroclastic rocks probably of the Betty Creek Formation. Extensive gossan zones (Photo 15) are associated with pyritized and silicified agglomerates and lapilli tuffs with which the potassium channel anomaly described in Section 9.1.i correlates. The Pat 1-3 claims were staked to cover the west, northwest and north extensions of the alteration zones and the radiometric anomalies outlined by the helicopterborne survey.

Forty-five samples were collected and comprise 28 rocks, 10 stream sediments and 7 soils. The rock and talus samples (Maps 5B, C) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 262 ppb, 1 and 75 ppm, 3 and 4270 ppm, 13 and 186 ppm and 13 and 422 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 35 ppb, 18 ppm, 207 ppm, 42 ppm and 96 ppm, respectively. Using threshold values of 15 ppb Au, 20 ppm As, 60 ppm Cu, 80 ppm Pb and 100 ppm Zn, 36% of the gold, 29% of the arsenic, 18% of the copper, 11% of the lead and 29% of zinc values for the rock samples are anomalous.

The 10 stream sediment samples (Maps 5B, C) have gold, arsenic, copper, lead and zinc contents ranging between 2 and 90 ppb, 1 and 13 ppm, 18 and 106 ppm, 31 and 68 ppm and 77 and 143 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 16 ppb, 2 ppm, 39 ppm, 48 ppm and 108 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 30% of the gold values, 10% of the copper values and 60% of the zinc values are considered anomalous.

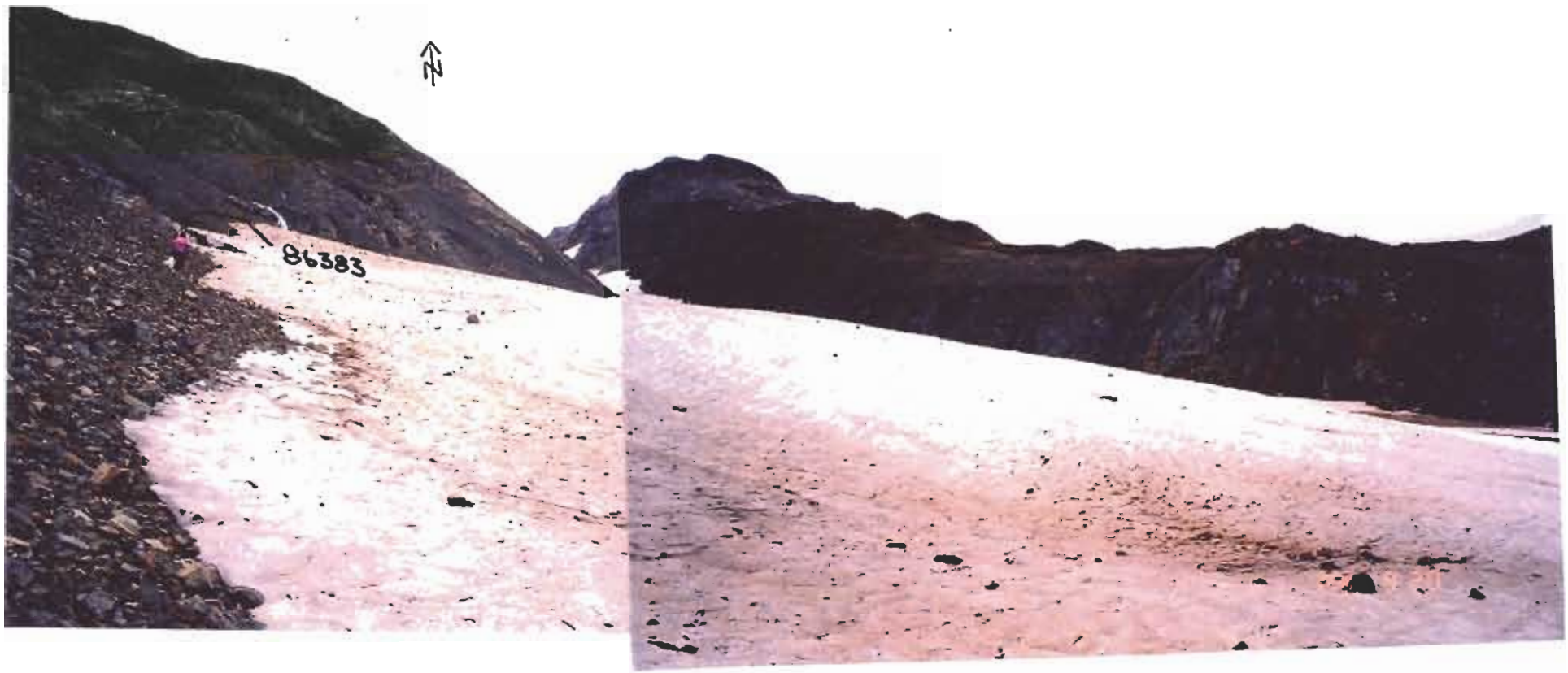


Photo 14: American Creek zone - looking north to alteration zones on east and west sides of glacier at the head of American Creek

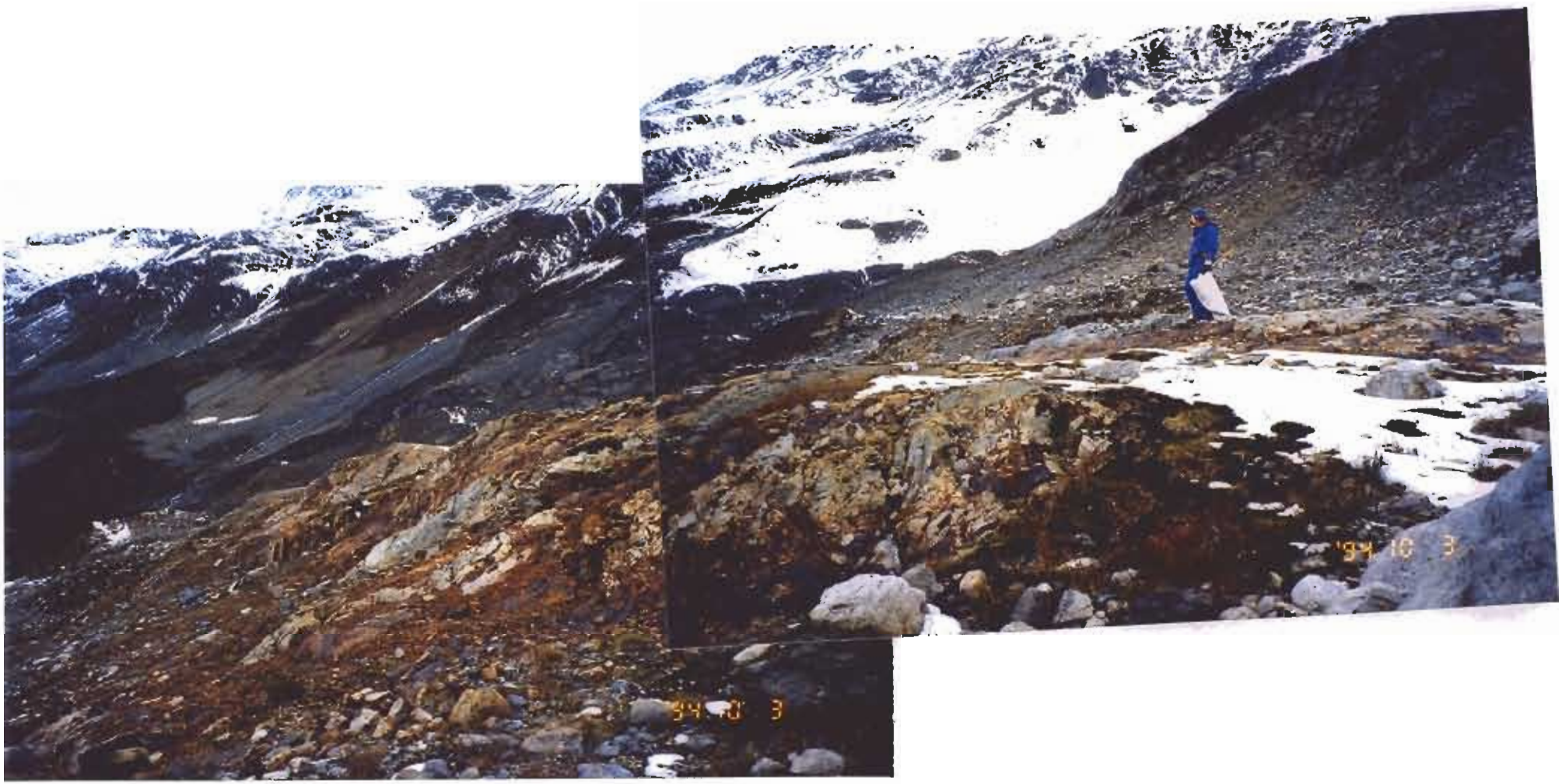


Photo 15: American Creek zone - looking northwest to alteration zone on west side of headwaters of American Creek; Samples 86562-565

The 7 soil samples have gold, arsenic, copper, lead and zinc contents ranging between 2 and 17 ppb, 1 and 1 ppm, 23 and 60 ppm, 34 and 78 ppm and 70 and 193 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 7 ppb, 1 ppm, 35 ppm, 53 ppm and 109 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 29% of the gold values, 14% of the copper values, 14% of the lead values and 29% of the zinc values are considered anomalous.

The most interesting gold values were returned from silicified, finely pyritized, angular mafic volcanic float located on the west lateral moraine near the toe of the glacier (Photo 16). Six of the float samples have gold and arsenic contents ranging between 15 and 262 ppb and 18 to 75 ppm, respectively, and averaging 130 ppb gold and 45 ppm arsenic. A stream sediment sample taken on a creek draining the postulated source area of the float samples returned 90 ppb gold. It is recommended that follow-up activities be utilized to locate and evaluate the in-situ source of the mineralization.

Approximately 500 m north of the gold values, boulders of felsic volcanic with malachite staining and 2-3% disseminated pyrite returned up to 4270 ppm copper but with no other anomalous base metal or gold values. On the east side of the glacier, pyritized pyroclastic rocks returned up to 43 ppb gold, 186 ppm lead and 422 ppm zinc (sample 86573; Photo 17). As indicated in Section 9.1.i, the potassium channel anomaly is fairly extensive and follow-up of the anomalous gold value is recommended in conjunction with further reconnaissance work.

Noranda had historically carried out reconnaissance geochemical surveys in the Virginia Creek Target Area on streams on the north and south side of Virginia Creek. On the south side of the Creek, the follow-up of silt arsenic-antimony anomalies encountered rock samples containing anomalous gold, arsenic and antimony values ranging up to 86 ppb, 4784 ppm and 63 ppm, respectively. Panned concentrates from silt samples returned up to 770 ppb gold. The steep terrane and glacial ice cover apparently prevented further work (Baerg, 1989).

On the north side of the creek, Noranda follow-up silt and soil sampling confirmed the presence of a 350 m wide Pb-Zn-Ag-Mn-Sb +/- As anomaly (Baerg, 1989). Lead, zinc, silver, and arsenic values ranged up to 1252 ppm, 1939 ppm. 19.5 ppm and 206 ppm, respectively. Follow-up geological and geochemical traverses carried out in 1990 apparently failed to located the source of the anomalies (Baerg, 1991).

It is recommended that the weak EM conductors and potassium channel anomaly located by the Geonex Aerodat survey be the focus of further reconnaissance surveys. The anomalous gold mineralization in float samples found near the toe of the glacier near American

Photo 16: American Creek zone - looking south to toe of glacier and area of anomalous float samples on west morraine

Photo 17: American Creek zone - looking 320 deg to pyritized agglomerate
Sample 86573: 43 ppb Au, 18 ppm As, 3 ppm Cu, 186 ppm Pb, 422 ppm Zn

Creek should be one of the initial areas of concentration for follow-up activities.

iii. JW ZONE, SOUTH ZONE TARGET AREA, TODD 11, PAT 10 CLAIMS (Tables 3-5; Maps 2, BL2, 6A-C):

The JW Zone is located on a ridge near the southeast boundary of the Todd 11 claim and the northeast boundary of the Pat 10 claim. Reconnaissance geological and geochemical surveys were used to evaluate an iron oxide and clay colour anomaly associated with moderately silicified and strongly sericitized, coarse pyroclastic rocks.

The rocks are weakly pyritized and a large patch of jarosite/ alunite was noted in the cliffs above the sample line. A weak Geonex Aerodat EM anomaly is associated with the colour anomaly. The target is located on the east side of a large magnetic low. Of the fifteen rock and talus samples that were collected, only three anomalous arsenic and one anomalous zinc value was returned. In view of the rather negative results, no additional work is recommended.

9.5 FOLLOW-UP GEOLOGICAL AND GEOCHEMICAL SURVEYS:

i. YELLOW BOWL ZONE, MID ZONE TARGET AREA, TODD 12 CLAIM (Tables 3-5; Maps BL2, 2, 7A-C; Photos 18-19):

The Mid Zone Target Area is located on the Todd 12 claim approximately 1.2 km to the west of Todd Creek. No potassium channel anomaly is indicated by the Geonex Aerodat survey, but the Area has a favourable structural setting, cut by two interpreted northwest trending faults and is associated with northeasterly striking, low amplitude magnetic trends (Map BL2).

The geological setting of the Area was described by Noranda (Baerg, 1989):

> The area is predominantly underlain by andesite flows and agglomerates with local areas of feldspar porphyry flows similar to the South Zone. . . The felsic volcanics, which occur along the top of the north-south ridge running through TOC 9 (Todd 4) and 10 (Todd 12) have been traced from the By glacier to the Fall Creek Zone. The rhyolite, dacite and porphyry are locally moderately to strongly quartz-sericite-pyrite altered and the volcaniclastics are moderately to strongly carbonate +/- sericite altered. Bedding in the volcaniclastics generally trends northwest with moderate to steep northeast dips.
>
> Mineralization consists of east-west to northwest trending quartz-pyrite +/- chalcopyrite veins ranging from 1 cm to 6 m wide and 1 to 108 m long. No significant precious metal values have been obtained from these veins to date.

In order to follow-up several slightly anomalous copper, arsenic, cobalt, iron and gold anomalies returned from silt samples, Noranda carried out geochemical sampling on a 1.5 km by 300 m grid on which 101 soil samples, 2 silt samples, one pan sample and 10 rock samples were collected. Except for one rock sample and one pan sample with copper values of 2500 and 400 ppm, lead values of 16 and 32 ppm, zinc values of 150 and 110 ppm and gold values of 330 and 870 ppb, respectively, all the rest of the values were deemed to be uniformly low (Baerg, 1989).

Based on the Geofine evaluation (Maps 7A-C), the Yellow Bowl Zone (Photos 18, 19) is underlain by sulfidized, chloritized, weakly silicified felsic to intermediate volcanics. Alunite/jarosite staining is pervasive and gives the area its characteristic bright yellow colour. Silicification is less intense then in many other target areas but most samples do show significant chlorite alteration.

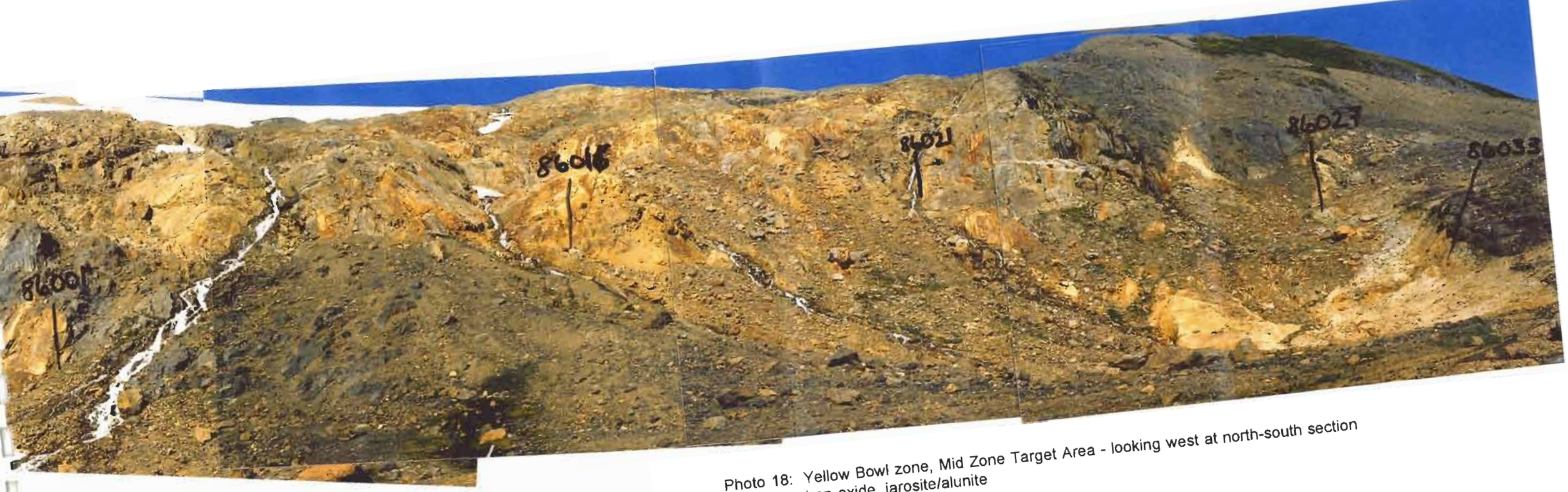


Photo 18: Yellow Bowl zone, Mid Zone Target Area - looking west at north-south section
Iron oxide, jarosite/alunite

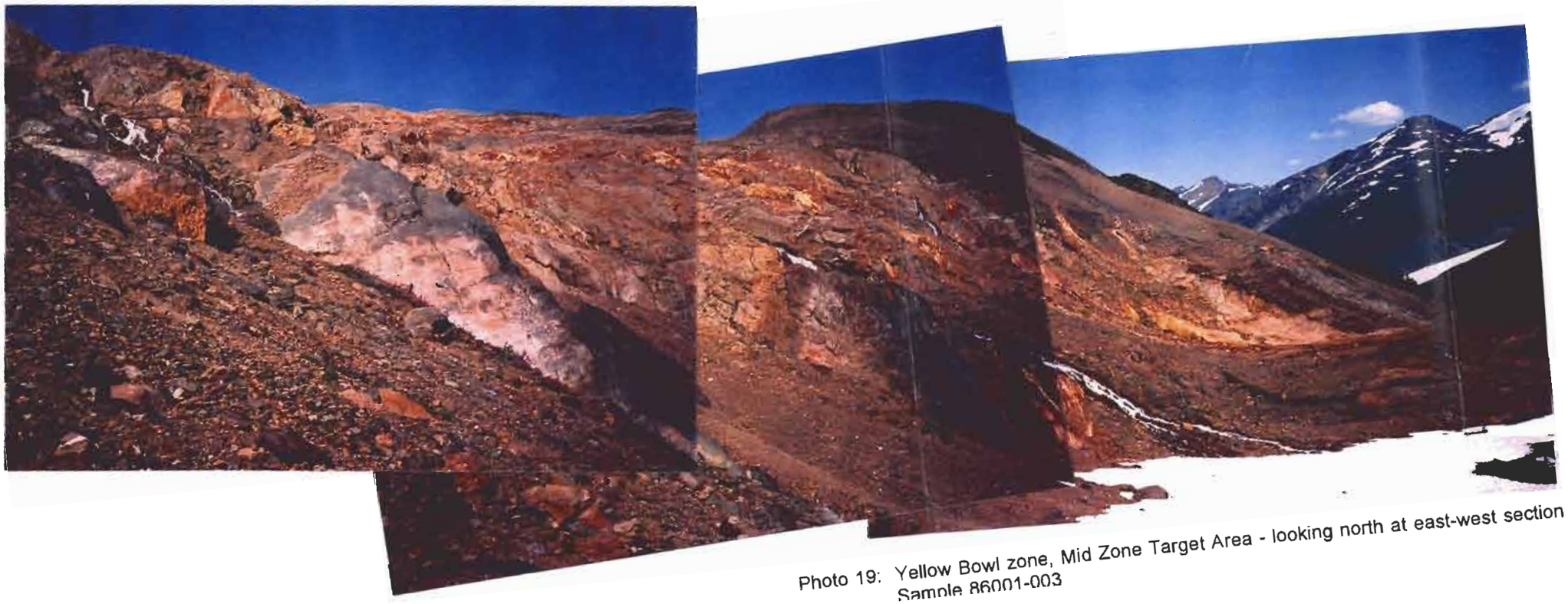


Photo 19: Yellow Bowl zone, Mid Zone Target Area - looking north at east-west section
Sample 86001-003

Forty-one samples were collected during the Phase 1 program including 29 talus and rocks, and 12 stream sediments. The rock and talus samples (Maps 7B, C) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 1678 ppb, 2 and 1150 ppm, 6 and 98000 ppm, 3 and 745 ppm and 2 and 6940 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 167 ppb, 105 ppm, 6002 ppm, 54 ppm and 272 ppm, respectively. Using threshold values of 15 ppb Au, 20 ppm As, 60 ppm Cu, 80 ppm Pb and 100 ppm Zn, 62% of the gold, 59% of the arsenic, 59% of the copper, 3% of the lead and 14% of zinc values for the rock samples are anomalous.

The 12 stream sediment samples (Maps 5B, C) have gold, arsenic, copper, lead and zinc contents ranging between 2 and 68 ppb, 1 and 1 ppm, 71 and 343 ppm, 15 and 45 ppm and 29 and 94 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 36 ppb, 1 ppm, 154 ppm, 33 ppm and 69 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 83% of the gold values and 100% of the copper values are considered anomalous.

The positive results were obtained from the one small traverse run in the target area. Based on the analytical results from the rock samples, it is evident that there is a strong arsenic-gold-copper correlation and that anomalous gold, arsenic and copper values have been obtained over fairly wide widths: 512 ppb, 1150 ppm and 1510 ppm, respectively, over 4 m in sample 86021; and, 209 ppb, 500 ppm and 3410 ppm, respectively, over 5 m in sample 86023. The best gold and copper values returned in a chip sample were 1.67 g Au/t and 9.8% Cu over 1 m.

The alteration in the Mid Zone Target Area is quite extensive and is considered important in view of its similarity to the Marc Zone at Red Mountain. As noted above, the structural setting and magnetic association offer a favourable environment for gold mineralization. Additional reconnaissance geological and geochemical surveying is recommended to outline the extent of the mineralization prior to the initiation of detailed follow surveys.

ii. NORTH ZONE, ORANGE MOUNTAIN TARGET AREA, TODD 1, 2, 3 CLAIMS (Maps BL2, 3, 8):

The North Zone of the Orange Mountain Target Area is located immediately north of Fall Creek and flanks the south side of the large potassium channel anomaly outlined by the Geonex Aerodat geophysical survey in the Orange Mountain Target Area. A number of low amplitude magnetic trends strike north and northeast through the North Zone that is flanked to the east by a positive magnetic anomaly (Map C1). As shown on index Map 8, the North Zone includes Grid C that was cut as part of the Phase 1, 1994 program; the historic Noranda Grid A that covers the A Zone vein system and that

was restored during the 1994 program; and, the historic Noranda Grid B that covers the B Zone vein system.

ii.a. GRID C, NORTH ZONE, ORANGE MOUNTAIN TARGET AREA, TODD 1, 2, 3 CLAIMS (Tables 3-5; Maps BL2, 3, 9A-E; Photos 20, 21):

Grid C (Photos 20A & B, 21) comprises about 3.6 km and is located on the North Zone on the north side of Fall Creek, immediately north of the Fall Creek Target Area (Map 8). Grid C is the northern extension of the Fall Creek Grid and covers most of Grid A, although Grid C is cut east-west, while Grid A is cut at 315 degrees.

The Fall Creek Base Line was extended north across Fall Creek and 3 east-west lines spaced at 100 m were cut 700 m to the east to cover Grid A. The lines were also cut 500 m west of the Base Line. The western part of Grid C covers a large area of iron oxide alteration that extends from the north-south Fall Creek Base Line for about 500 m to the west and about 300 m to the east. The target is also exposed for about 500 m north of Fall Creek.

The alteration is hosted by greyish green, coarse pyroclastic rocks (Map 9A) with a few areas of fine grained ash tuff and andesite flows. The colour anomaly is due to pervasive sericite, silica, pyrite and limonite alteration. Several large patches of jarosite/alunite alteration are also present. Noranda had previously taken 4 float and 2 rock samples in the area that returned anomalous gold values: the float samples returned 1480, 82, 39 and 92 ppb gold. The 2 in-situ rock samples yielded 39 and 37 ppb gold.

The Geofine geological and geochemical surveys included the collection of 27 stream sediments samples, 94 soil samples and 29 rock samples. The stream sediment samples (Maps 9B, C) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 333 ppb, 1 and 28 ppm, 17 and 84 ppm, 21 and 49 ppm and 54 and 106 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 34 ppb, 3 ppm, 31 ppm, 32 ppm and 73 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 59% of the gold values, but only 4% of the arsenic values and 7% of the copper and zinc values, are considered anomalous.

The 94 soil samples have gold, arsenic, copper, lead and zinc values ranging between 1 and 395 ppb, 1 and 16 ppm, 18 and 549 ppm, 26 and 64 ppm and 55 and 125 ppm, respectively. The samples have average gold, arsenic, copper, lead and zinc contents of 30 ppb, 1 ppm, 54 ppm, 7 ppm and 13 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm

Photo 20a: North Zone, Grid C - Aerial view of Grid C

Photo 20b: Altered pyroclastic rock - looking north at 86630 and 86631 on L20850N

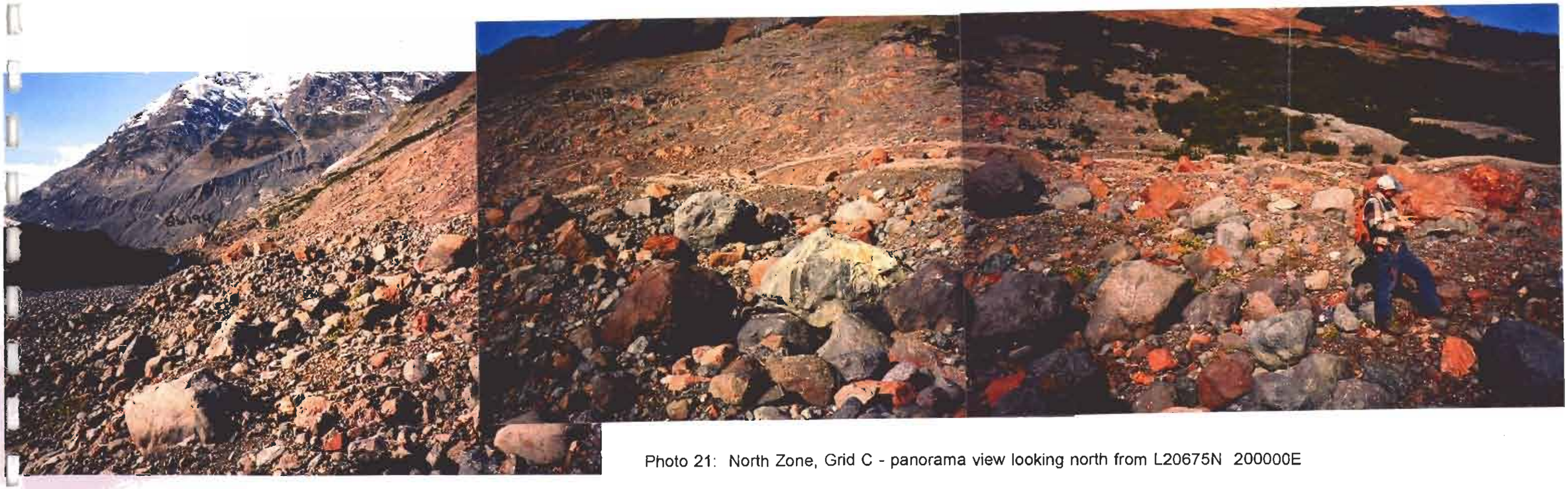


Photo 21: North Zone, Grid C - panorama view looking north from L20675N 200000E

Zn, 53% of the gold values but only 3% of the copper and 9% of the zinc values are considered anomalous.

Most of the anomalous gold values in the sediment and soil samples are located on the east end of the northern two grid lines. The southern grid line was not soil sampled because it covers mainly coarse talus near the bottom of the slope.

The 10 ppb gold soil contour outlines an anomaly on the east side of the Base Line over 350 m in width and at least 100 m in length and is open to the east, south and north (Map 9D). The 50 ppm gold contour outlines several small zones within the 10 ppm Au contour. However, at the east end of Grid C, a wider gold zone is partially outlined by the 50 ppb Au contour that is open to the south, east and north. The gold soil anomalies described above transcend the A Zone described below in Section 9.5.ii.b, indicating additional gold mineralization and perhaps a much more significant target to the east. Smaller zones of gold soil anomalies are outlined by the 10 ppb contour on the west side of the Base Line but only the one with consecutive values of 34 and 50 ppb gold on the most northerly grid line appears to warrant follow-up.

The 29 rock samples (Maps 9B, E) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 1310 ppb, 1 and 2900 ppm, 8 and 4200 ppm, 6 and 548 ppm and 8 and 455 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 130 ppb, 263 ppm, 311 ppm, 67 ppm and 90 ppm, respectively. Using threshold values of 15 ppb Au, 20 ppm As, 60 ppm Cu, 80 ppm Pb and 100 ppm Zn, 55% of the gold values, 79% of the arsenic values, 35% of the copper, 6% of the lead and 6% of the zinc values, are considered anomalous.

Most of the anomalous gold values in the rock samples were returned from float samples collected in the gold soil anomaly east of the Base Line. West of the Base Line on the northernmost grid line (20950 N) an in-situ sample of altered pyroclastic (sample 86631; Photo 20B) returned 648 ppb gold and 0.42% copper. Down slope of the sample and of the nearby soil anomaly referenced above on the west side of the Base Line, 6 float samples returned anomalous gold values including 184 ppb, 65 ppb, 392 ppb, 1310 ppb, and 695 ppb. All the aforementioned samples have anomalous copper values ranging up to 0.35% copper. The new target area has been designated the Base Line Zone.

The Phase 1 surveys on Grid C have outlined a number of apparently new gold targets, the most interesting of which appear to be located in the vicinity of the A Zone described below.

ii.b. A ZONE, GRID A, NORTH ZONE, ORANGE MOUNTAIN TARGET AREA, TODD 2 CLAIM (Tables 3-6; Maps BL2, 3, 8, 10A-C, 13A; Photos 22-24):

As noted in Minfile Report 106, the A Zone mineralization is described as northwest trending and vertically to steeply west dipping, and comprised of 0.1-2 m wide quartz, chalcopyrite, pyrite, hematite and breccia veins. The A and B Zone veins on the Todd 2 claim were a Newmont discovery and yielded some interesting results from work carried out in 1960.

The geological setting (Photo 22) includes andesite flows, tuffs, agglomerates and flow breccias along with dacites and rhyolites. Dark green, coarse pyroclastic rocks without the intense alteration found on other parts of the property are the most prominent rock type in the vicinity of the A Zone, but the veining seems to be localized in a sequence of fine grained intermediate to felsic volcanic flows and fine grained tuffs within the pyroclastics.

The A Zone consists of two parallel veins separated by a quartz-chalcopyrite-hematite stringer zone. The veins are usually banded and brecciated and contain up to 20% angular fragments of the pyroclastic host. Locally, pyrite can range up to 20%. Malachite and azurite staining is common on the surface of the veins, along with hematite and limonite. Chlorite and sericite are found near the veins, with chlorite much more prevalent than sericite. Silicification is restricted to the immediate vicinity of the veins.

As exposed in the trench on L10000 E (Photos 23, 24), the A Zone is up to 30 m wide and has been traced over a strike length of 320 m. To the south, the veins pinch down to 10-20 cm but have been traced across Fall Creek and under overburden. To the north, the zone disappears under glacial till.

Historically (1986-1988) Noranda established a grid on the A Zone and carried out trenching with results ranging up to 3.8 g Au/t across 14.3 m. A total of 1266 m of diamond drilling in 11 holes was also carried out over a strike length of 150 m, along with a Mise-a-la-masse down hole geophysical survey. Significant drill results are summarized in Table 6 and include the following values:

	3.47 g Au/t	0.75% Cu over	31.85 m
inc.	14.47 g Au/t	2.06% Cu over	5.95 m
	2.83 g Au/t	0.58% Cu over	1.95 m
	3.95 g Au/t	0.22% Cu over	2.00 m
	3.43 g Au/t	0.73% Cu over	1.70 m
	6.21 g Au/t	0.60% Cu over	1.75 m

The geophysical survey was inconclusive, possibly due to poor contacts, steep dips and topography. Noranda's interpretation of the drill results (Baerg, 1989) is included below:

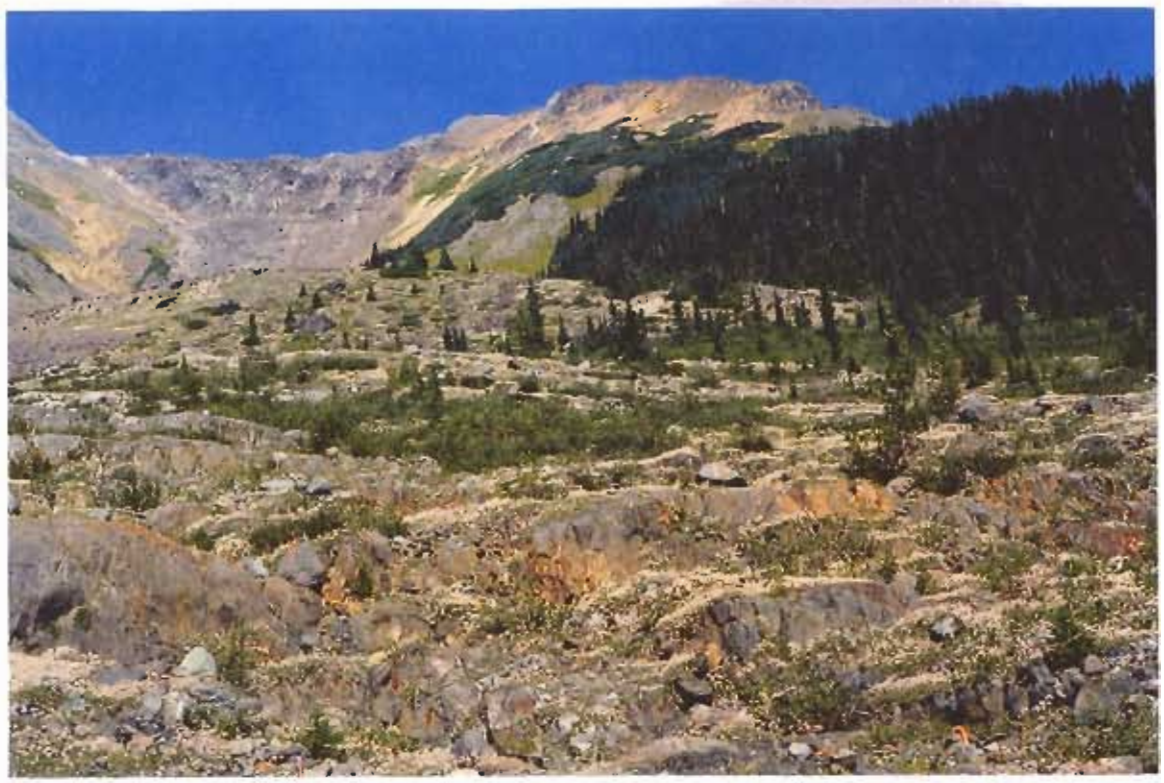


Photo 22: North Zone - Pyroclastic host rocks looking 300 deg to Grid A

Photo 23: North Zone, Grid A - drill pads
Trench 1 (L10000E), Trench 2 (L10025E)

Photo 24: North Zone, Grid A - Trenches on A Zone veins

TABLE 6

SIGNIFICANT NORANDA DRILL RESULTS, NORTH ZONE - GRID A

1266m

8.03.03 Drilling - During 1988 a total of 11 drill holes, NTC-88-20 to 25 and 40 to 44, teated the North "A" Zone along a strike length of 150m.(Figures 20-24) Significant results are listed in Table 5.

TABLE 5: SICNIFICANT NORTH ZONE DRILLING RESULTS

HOLE #	FROM(m)	TO(m)	WIDTH(m)	Cu ppm	Cu %	Au ppb	Au gmt
20	64.95	66.15	1.20	2098		1352	
20	78.15	79.65	1.50	1069		1133	
HOLE #							
22	29.30	30.00	0.70		0.04		0.96
22	30.00	31.00	1.00		1.05		3.46
22	31.00	32.00	1.00		1.30		1.27
22	32.00	33.00	1.00		0.79		1.34
22	33.00	34.00	1.00		3.00		1.82
22	34.00	35.00	1.00		0.34		0.62
22	35.00	36.00	1.00		1.22		0.96
22	36.00	37.00	1.00		2.16		4.18
22	37.00	38.00	1.00		1.69		12.17
22	38.00	39.00	1.00		1.34		7.78
22	39.00	40.00	1.00		1.84		21.33
22	40.00	41.00	1.00		2.17		16.25
22	41.00	41.95	0.95		3.20		25.65
22	41.95	43.50	1.55		0.18		0.93
22	48.50	50.25	1.75		0.69		1.13
22	58.15	59.65	1.50		0.41		2.09
22	59.65	61.15	1.50		0.13		3.46

WEIGHTED AVERAGES:
29.30 to 36.00m = 1.15 % Cu, 1.51 gmt Au/6.70m
36.00 to 41.95m = 2.06 % Cu, 14.47 gmt Au/ 5.95m
58.15 to 61.15m = 0.27 % Cu, 2.78 gmt Au/3.00m

HOLE #						
25	81.15	82.15	1.00	4320	705	
25	82.15	83.15	1.00	6330	543	
25	84.15	85.15	1.00	9490	4360	
25	85.15	86.10	0.95	1976	1218	
25	86.10	89.10	3.00	1289	163	

WEIGHTED AVERAGES:
84.14 to 86.10m = 0.58 % Cu, 2.83 gmt Au/1.95m

HOLE #					
40	51.50	52.60	1.10	3400	1.13
40	52.60	53.60	1.00	6500	0.41
40	53.60	54.90	1.30	2100	1.27
40	54.90	55.70	0.80	2600	2.64
40	84.60	85.60	1.00	4500	6.00
40	85.60	86.60	1.00	636	1.89
40	86.60	87.35	0.75	180	1.20
40	87.35	89.00	1.65	46	1.95
40	89.00	90.50	1.50	40	0.55

TABLE 5 cont.

HOLE #							
40	90.50	92.00	1.50	198			0.14
40	92.00	93.50	1.50	118			1.06
40	117.50	118.50	1.00	4670			1.17
40	121.00	122.00	1.00	>20000	3.46		1.51
40	124.50	125.50	1.00	7670			1.82

WEIGHTED AVERAGES:

51.50 to 55.70m = 0.34% Cu, 1.29 gmt Au/4.20m
84.60 to 93.50m = 0.07% Cu, 1.64 gmt Au/8.90m
includes 84.60 to 86.60m = 0.22% Cu, 3.95 gmt Au/2.00m

HOLE #							
41	54.00	55.70	1.70	7620			1.92
41	55.70	56.70	1.00	1514			0.58
41	56.70	57.70	1.00	4750			1.20
41	57.70	59.20	1.50	566			0.07
41	59.20	60.30	1.10	2550			0.10
41	60.30	62.00	1.70	7300			3.43
41	62.00	63.00	1.00	3310			0.96
41	63.00	64.50	1.50	759			0.79
41	64.50	66.75	2.25	2046			0.34
41	66.75	69.00	2.25	677			0.17
41	69.00	70.75	1.75	6010			6.21

WEIGHTED AVERAGES:

54.00 to 70.75m = 0.34% Cu, 1.51 gmt Au/16.75m

HOLE #							
42	44.75	45.75	1.00	382			1.10
HOLE #							
43	15.70	16.90	1.20	2660			0.69 .828
43	16.90	20.40	3.50	4100			2.74 9.57
HOLE #							
44	24.90	25.80	0.90	6740			2.09
44	78.00	81.00	3.00	23			2.57

In general the drilling indicates that the A Zone is discontinuous along strike and down dip. The zone appears to consists of several irregular pods or lenses ranging in width from trace to 29.75 m. The wide intersection encountered in Hole 22 could not be duplicated in Hole 23, below Hole 22, or in step out holes on either side, Holes 22, 21, 24 and 25. Hole 40, which was drilled back toward Holes 22 and 23, appears to have confirmed that the zone is actually dipping vertical or steeply southwesterly and that the zone narrows, at least locally, with depth. The mineralization encountered toward the bottom of Hole 40 appears to be either a separate, new zone which does not appear to have a surface expression or a splay off the main zone.

Holes 41-42 an 43-44 were further step outs along strike to test the continuity of the mineralization. Holes 41-42 appear to indicate that to the south, at least locally, the tenor and grade of the mineralization increases with depth. Holes 43-44 confirmed that the mineralized structure, albeit somewhat narrower, continues to the north.

In 1990, Noranda drilled Hole 90-49 (Map 13A; Table 7) on an IP anomaly located about 85 m south of Fall Creek that appears to represent the along strike extension of the A Zone. The hole returned anomalous Cu, Au and Zn values over a core length of 16.4 m including 3.37 g Au/t and 0.27% Cu over a 2.85 m core length. The intersection and an IP anomaly located 100 m further south suggest the A Zone has a strike length of at least 500 m.

During the Phase 1 program, Geofine rehabilitated the 1988 Noranda grid on the A Zone and carried out reconnaissance geological mapping and limited sampling on and in the vicinity of the trenches (Photos 22-24) as a confirmation of the apparent importance of the target. As indicated in Table 4 and on Maps 9A-C, 48 rock and dump samples were collected that have gold, arsenic, copper, lead and zinc values ranging between 1 and 22670 ppb, 4 and 7500 ppm, 6 and 31000 ppm, 14 and 1610 ppm and 8 and 5490 ppm, respectively. The samples have average gold, arsenic, copper, lead and zinc contents of 1683 ppb, 537 ppm, 3125 ppm, 130 ppm and 466 ppm, respectively. Individual composite samples returned 11.5 g gold/t, 3.1% copper and 0.18% zinc over 1.5 m.

As indicated in Section 9.5.ii.a above, the new Grid C cut during the Phase 1 program overlaps the historic Grid A. Soil sampling on the east side of Grid C has outlined interesting soil anomalies (Map 9D) that transcend the A Zone mineralization and that are open to the east, north and south. The soil results are indicative of additional mineralized zones on the east side of the A Zone.

Based on the results returned from the Geofine program on Grids A and C and from the historical work, additional exploration is recommended on the A Zone in conjunction with a broader follow-up

program (discussed under Section 9.5.ii.c. below) on an expanded Grid C that would also encompass the Noranda A, B, and Orange Mountain Grids (Maps 3, 8). Noranda does not appear to have carried out any soil sampling in the area of Grids A, B and C and does not appear to have implemented any geophysical work i.e., magnetometer and IP surveying on the A, B, C and Orange Mountain Grids.

As indicated by Noranda's conclusions regarding the diamond drill program on the A Zone and based on Geofine's experience with such targets and their characteristic plunging ore shoot morphologies, the A Zone could indeed remain open for expansion. For example, in another interpretation of the drill intersections, if a 60-70 degree northeast dip is used for the A Zone, it is possible that the 3 distinct zones (1.29 g Au/t and 0.38% Cu over 4.2 m; 1.64 g Au/t and 0.45% Cu over 8.9 m; and, 0.39 g Au/t and 0.27% Cu over 20.75 m) encountered in Hole 40 drilled to the southwest would be open for expansion in additional holes drilled to the southwest. The new zone in Hole 40 reported in Noranda's interpretation of the drilling (see above) would be a significant target that has yet to be followed up and may reflect the cause of the strong gold soil anomaly west of the A Zone. The larger eastern soil anomaly may remain untested. It is recommended that any follow-up drilling be based on a detailed geophysical, geochemical and geological program carried out on the regional grid proposed in Section 9.5.ii.c.

ii.c. B ZONE, GRID B, NORTH ZONE: (Tables 3-5; Maps BL2, 3, 8, 11A-C, 13B; Photos 25-27):

The historic Grid B Base Line is located approximately 400 m east of the Grid A Base Line (Map 8) and hosts the B Zone quartz vein system (Photo 25). Historically, Noranda evaluated the B Zone with limited sampling that returned up to 5.79 g gold/t and 3.94% copper. The best gold value returned was 9.53 g/t along with 0.35% copper over one meter. No detailed evaluation including soil sampling, trenching or diamond drilling appears to have been carried out.

The B Zone is hosted by the same coarse pyroclastic rocks as the A Zone. The vein system comprises a number of northwest to north trending quartz veins and stock workings and attains widths of over 10 m. It contains minor carbonate and locally up to 25% chalcopyrite and 20% pyrite as disseminations, veins and stock workings (Photos 26, 27).

The B Zone was examined over a strike length of about 60 m but it was traced visually across Fall Creek to the south and helicopter reconnaissance indicates it continues to the north. As indicated in Table 4 and on Maps 10A-C, 21 rock and float samples were collected that have gold, arsenic, copper, lead and zinc values

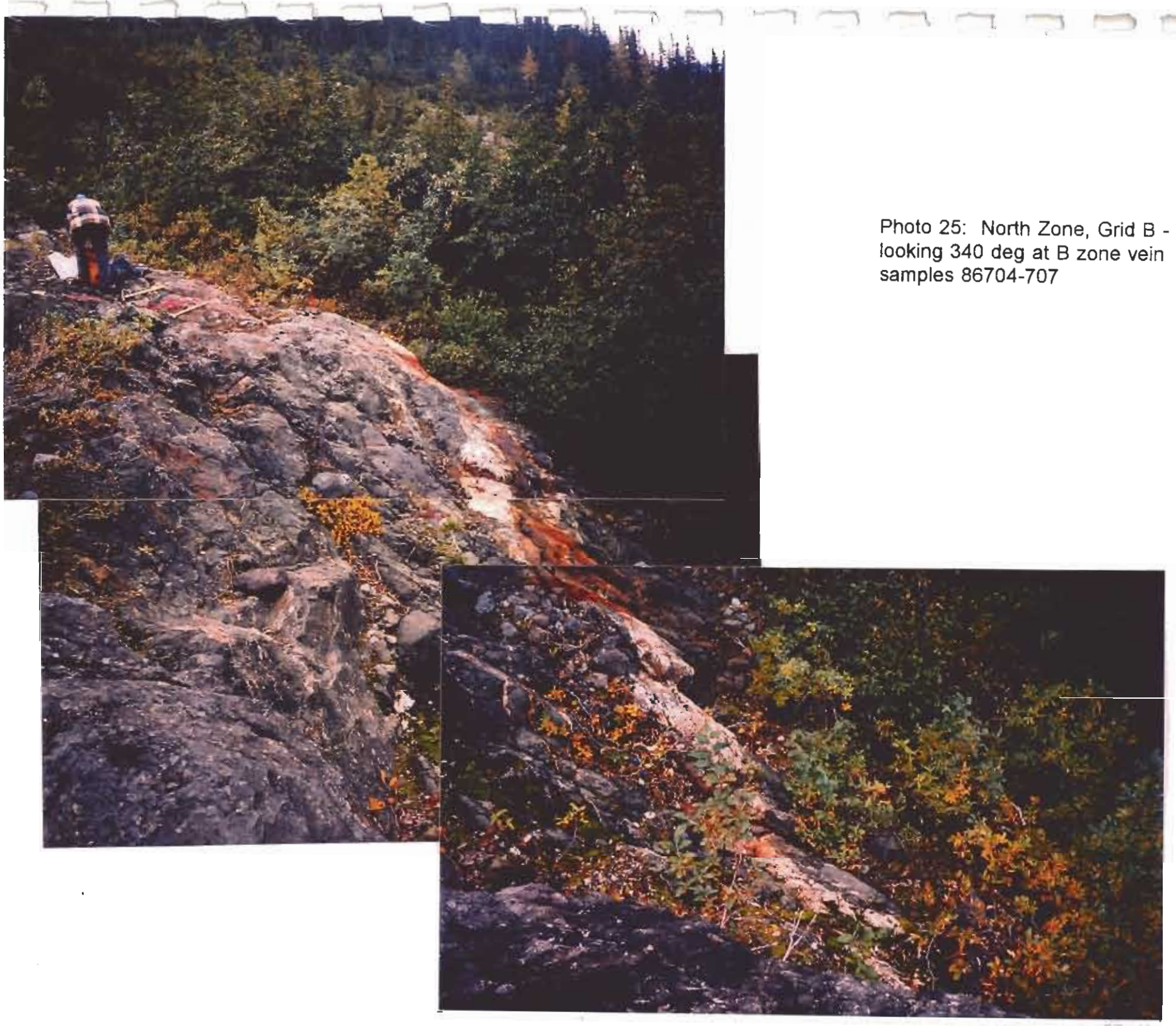


Photo 25: North Zone, Grid B - looking 340 deg at B zone vein samples 86704-707

Photo 26: North Zone, Grid B - Looking 100 deg at samples 86147 & 86148
86147 (5550 ppb Au, 550 ppm As, 3920 ppm Cu, 113 ppm Pb, 302 ppm Zn)
86148 (1095 ppb Au, 35 ppm As, 650 ppm Cu, 22 ppm Pb, 88 ppm Zn)

Photo 27: North Zone, Grid B - Looking 320 deg at sample 86149
86149 (1890 ppm Au, 300 ppm As, 2090 ppm Cu, 20 ppm Pb, 101 ppm Zn)

ranging between 5 and 5550 ppb, 9 and 5000 ppm, 14 and 60500 ppm, 18 and 195 ppm and 8 and 455 ppm, respectively. The samples have average gold, arsenic, copper, lead and zinc contents of 1778 ppb, 1070 ppm, 18030 ppm, 47 ppm and 88 ppm, respectively.

Individual composite samples returned up to 2207 ppb gold/t, 1130 ppm arsenic, and 2.28% copper over a width of 6.5 m. A sample (86720) of a large, angular, massive sulfide boulder returned 4490 ppb gold and 6.03% copper. Two samples of altered (silicified, sulfidized, chloritized, sericitized) angular float boulders had gold contents of 4700 and 4800 ppb gold and copper contents of 1.63% and 0.74% copper. One stream sample (86709) taken at the north limit of the Geofine sampling returned 94 ppb gold and 775 ppm copper, indicating further potential to the north.

In view of the auriferous environment evidenced by the current and historical work on Grids C, A and B, it is recommended that the C grid be expanded as topography allows to the north to cover the northern extension of the A Zone and the new Base Line Zone; to the east and southeast to encompass the B Zone and its southern extension; and to the northeast to encompass the northern extension of the B Zone and the Noranda Orange Mountain Grid (Maps 3, 8, 13A, 13B). As shown on Map 13B the new Grid C would total about 15 km. It is proposed that the Phase 1 geological and geochemical surveys be extended to the new part of Grid C and that IP and gradiometer surveying be carried out on all of the grid. Drill targets are already apparent on the A and B Zones, but any drilling should be prioritized based on a compilation of the information generated from the Phase 2 surveys on the expanded Grid C.

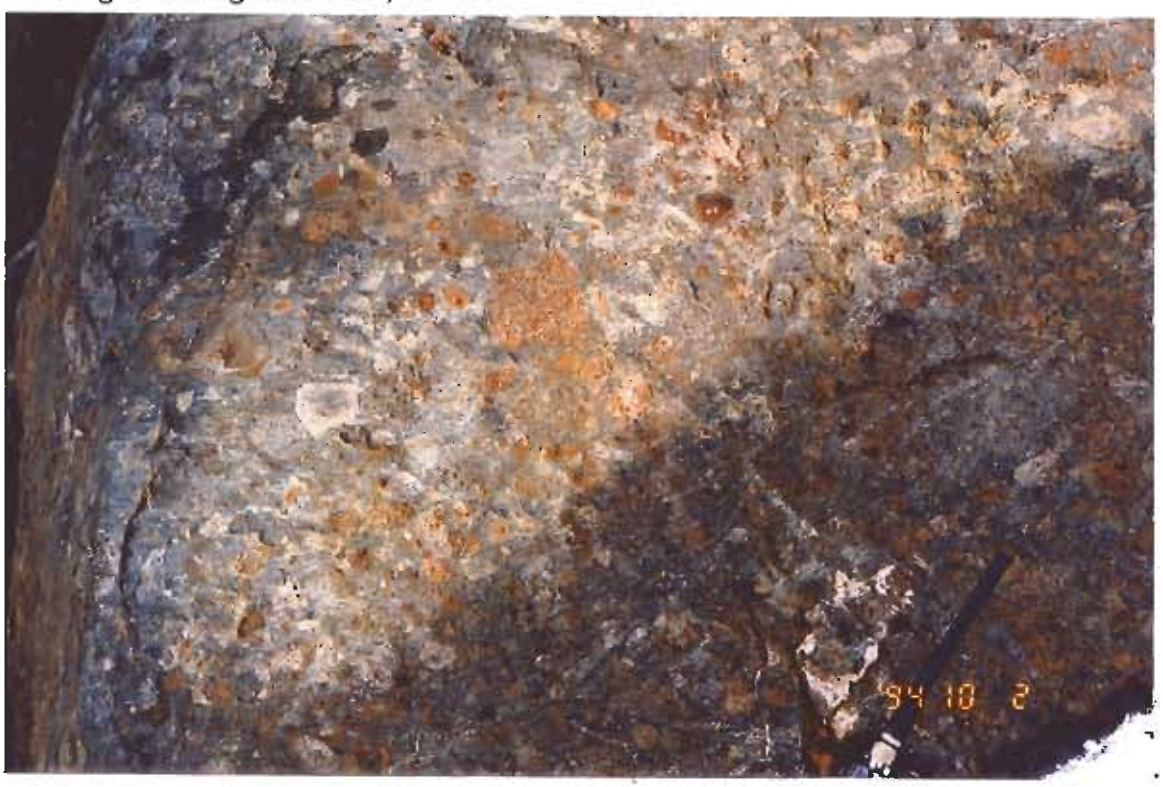
iii. FALL CREEK TARGET AREA, TODD 3, 4 CLAIMS (Maps BL2, 2, 3, 8; Photos 28-31):

The Fall Creek Target Area is located south of Fall Creek and is contiguous with the North Zone of the Orange Mountain Target Area (Map 2). The Fall Creek Target Area includes the historic Noranda Fall Creek and Ice Creek grids (Map 3). As part of the Phase 1, 1994 program, a new, 6.5 km grid was cut on part of the historic Fall Creek and Ice Creek Zones. The Fall Creek Grid extends south to L20050N and the Ice Creek Grid extends from L20050N south to beyond 19400N. As weather conditions allowed, geological and geochemical surveys were carried out (Maps 9A-E; 12A-C).

Most of the area is underlain by greenish grey to black, coarse pyroclastic rocks with angular fragments up to over 30 cm in their longest dimension (Photo 28). The agglomerates are often interbedded with fine grained andesites and periodically, by more felsic units. The greatest extent of outcrop on the Ice Creek and Fall Creek Zones occurs along the Ice Creek Valley and on either side of the glacier at the head of Ice Creek.

Photo 28: Pyroclastic rocks - Ice Creek Zone, Fall Creek Target Area

Looking 100 deg to 86403, 86404



19640E, L20000N Fragments to 15 cm

Photo 29: Outcrop along Ice Creek Valley

Looking to west side of Ice Creek

Looking south along east side of Ice Creek

Iron oxide and clay colour anomalies are frequently associated with all rock types and denote alteration zones of various intensities, orientations and extents (Photo 30.) The alteration most often comprises limonite, silica, sericite, pyrite, jarosite-alunite and carbonate. As indicated in Table 5, the most intense alteration (limonite, quartz, sericite, chlorite, jarosite/alunite and pyrite) has been designated T1; the moderate varieties, most often reflected by less intense limonite, pyrite, sericite and silica, by T2; and rather weak alteration, by T3.

The alteration zones are structurally controlled and their orientations include north, east, northeast and northwest (Photo 31). A number of veins and possible zones of malachite-chalcopyrite-sericite-quartz-pyrite with or without chlorite, barite, calcite and bornite are found on the grids. The copper zones appear to be generally small, although in some areas spheroidal weathering has produced slabs of float that are suggestive of larger targets. As elsewhere on the property, the historical work indicates there is a strong copper-gold correlation and any copper mineralization could be indicative of gold mineralization. However, there is also various evidence (e.g., results from the soil and stream sediment samples on the east end of Grid C on the North Zone) that indicate that gold mineralization without an apparent copper, lead or zinc or other base metal association can occur on the property.

a. FALL CREEK ZONE (Tables 3-5, 7; Maps BL2, 2, 3, 8, 9A-E, 13A, B; Photos 32, 33):

As indicated in Section 5.f. above:

> The F 1 Zone or Fall Creek Zone was discovered by Noranda in 1987 as a follow-up of anomalous values returned in a soil survey on the south side of Fall Creek. During 1986 to 1989 Noranda completed geological mapping, silt and soil geochemical surveys, and four holes totalling 368 m on the zone. Significant intersections include:
>
> 6.72 g Au/t over 1.45 m
> 12.10 g Au/t over 1.25 m
> 2.73 g Au/t and 0.59% Cu over 13.00 m
> incl. 5.41 g Au/t and 0.50% Cu over 5.25 m
> 4.34 g Au/t over 2.00 m
> 3.94 g Au/t over 7.90 m
> inc. 4.71 g Au/t over 4.75 m
>
> The mineralization is associated with pervasively altered andesites that contain quartz-sericite-pyrite zones and that are cut by mineralized structures with a variety of orientations. The main zone of interest is associated with

Photo 30: Alteration Zones - Ice Creek Grid

Photo 31: NE trending southern alteration zone - Ice Creek Grid

Fault at 55 deg, vert dip

Looking north from 5100' to fresh snow at 3500'

Photo 32

quartz-pyrite-chalcopyrite-barite veins and has been traced for 400 m along strike and 300 m vertically. The drilling tested the zone over a strike length of 100 m and to a depth of 50 m.

IP and soil geochemistry delineated an anomalous area 900 by 450 m which encompasses the F 1 zone and several other mineralized outcrop and float occurrences.

In 1990, Goldnev Resources Inc. drill tested a number of the IP targets with 10 holes that did return some significant results including 1.35 g Au/t over 15.35 m and that are indicative of additional follow-up targets (Baerg, 1991). As indicated in Section 9.3, the drilling did not follow-up the encouraging values reported from the earlier drilling.

The areas of historical interest on the Fall Creek and Ice Creek Grids are summarized on Map 13A and include Noranda's interpretation of the various IP anomalies; and, the very strong Noranda gold and copper soil geochemical anomalies. The historical drill holes are also located and the significant results are reported in Table 7.

During the Phase 1 program, a new grid was cut over part of the historic Fall Creek Zone Grid and geological and geochemical surveys were initiated but were restricted by early winter snow accumulations (Photo 32). As indicated above, the Fall Creek Grid extends from Fall Creek south to L20050N. A reconnaissance traverse was also conducted to the west of the grid along the south shore of Fall Creek up to the head of the creek.

The ground surveys included the collection of 27 rock samples and 25 stream sediment samples. The stream sediment samples (Maps 9B, C) have gold, arsenic, copper, lead and zinc contents ranging between 2 and 306 ppb, 1 and 387 ppm, 5 and 115 ppm, 15 and 187 ppm and 54 and 418 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 46 ppb, 48 ppm, 50 ppm, 37 ppm and 90 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 69% of the gold values, 22% of the arsenic values, 45% of the copper values, 4% of the lead values and 4% of the zinc values are considered anomalous.

The stream sediments are not reflective of any anomalous gold values in the upper reaches of Fall Creek or in streams draining into them from the south. However, below the 3500 foot contour, low anomalous gold (values up to 16 ppb) are found in the sediments from Fall Creek and strongly anomalous gold (121 ppb) was returned from sediments taken from the main branch of Ice Creek just south of Fall Creek (Map 9C). All the stream sediment samples taken on the Fall Creek Grid are considered anomalous, with gold values ranging up to 306 ppb. The samples taken from Ice Creek all have anomalous gold and copper values.

TABLE 7

SIGNIFICANT NORANDA DRILL RESULTS, FALL CREEK AND ICE CREEK ZONES

TABLE 7: FALL CREEK SIGNIFICANT DRILL RESULTS

HOLE #	SAMPLE	WIDTH (m)	FROM (m)	TO (m)	Cu ppm	Cu %	Au gmt
45	49776	1.45	37.90	39.35	6810		6.72
46	25678	1.25	50.50	51.75	5820		12.10
47	49663	1.00	36.65	37.65	>20000	3.79	24.14
47	49664	1.50	37.65	39.15	925		0.58
47	49665	1.75	39.15	40.90	1157		0.17
47	49523	1.50	40.90	42.40	1821		2.06
47	49667	1.50	42.40	43.90	303		0.14
47	49668	1.75	43.90	45.65	305		0.10
47	49669	1.00	45.65	46.65	>20000	2.44	5.18
47	49670	1.00	46.65	47.65	>20000	3.72	3.50
47	49671	1.00	47.65	48.65	7450		0.65
47	49672	1.00	48.65	49.65	2010		0.21
48	49707	1.50	43.00	44.50	500		4.66
48	49708	1.65	44.50	46.15	126		1.06
48	49709	0.65	46.15	46.80	5370		9.84
48	49710	1.50	46.80	48.30	73		0.17
48	49711	1.60	48.30	49.90	279		0.31
48	49712	1.00	49.90	50.90	19680		15.22

WEIGHTED AVERAGES:

\# 47 - 49663 to 49672 = 0.59 % Cu, 2.73 gmt Au/ 13.00m
includes 49663 to 49523 = 0.50 % Cu, 5.41 gmt Au/5.25m
includes 49669 to 49670 = 3.08 % Cu, 4.34 gmt Au/2.00m
\# 48 - 49707 to 49712 = 0.31 % Cu, 3.94 gmt Au/ 7.90m
includes 47909 to 47912 = 0.50 % Cu, 4.71 gmt Au/4.75m

The zone as intersected in the drill holes varied from 1.25m to 11m wide. The zone consisted of chlorite-sericite-quartz altered andesite with blebs and veins of chalcopyrite-pyrite, quartz-calcite-chalcopyrite +/- barite veins and breccias. The barite appears to be a late, crosscutting feature in the zone, possibly the last phase of mineraliztion.

The surrounding andesites are pervasively altered, the main alteration assemblage being sericite-pyrite- chlorite-quartz with local sections of chlorite +/- sericite. Pyrite content ranges up to 10%. The mafic dykes observed on surface were also intersected in the drill holes. In section the contacts were more gradational and the dykes locally had a narrow alteration rim with increased concentrations of sulphides. It is possible that the dykes are either a) associated with the minerlaization and were generally resistant to alteration by the mineralizing fluids or b) the dykes postdate the mineralization and the alteration rim due to heat and fluids accompanying the dyke.

TABLE 1 lists the significant drill results:

TABLE 1 - SIGNIFICANT FALL CREEK ZONE DRILL RESULTS

Hole #	From (m)	To (m)	Width (m)	Cu (%)	Au (gmt)
49	73.57	75.10	1.53	.130	.161
49	75.10	76.60	1.50	.018	.087
49	76.60	78.39	1.79	.037	.900
49	78.39	79.45	1.06	.675	7.54
Weighted Average:					
	76.60 to	79.45	2.85	.274	3.37
53	68.90	70.40	1.50	.041	.320
53	76.40	79.40	3.00	.027	.400
53	82.40	83.80	1.40	.085	.320
54	91.20	92.2	1.00	.857	.050
54	120.40	121.9	1.50	.105	.540
54	121.90	123.9	2.00	.177	2.470
Weighted Average:					
	120.40	123.90	3.50	.146	1.643
55	2.35	3.55	1.20	N/A	.546
55	8.20	9.70	1.50	.005	1.960
55	29.30	30.65	1.35	.002	1.030
55	30.65	32.15	1.50	.017	1.400
55	52.80	55.80	3.00	.001	.480
55	55.80	57.30	1.50	.001	10.300
55	57.30	59.05	1.75	.001	.121
55	59.05	60.65	1.60	N/A	.989
55	60.65	62.15	1.50	.002	.480
55	62.15	63.65	1.50	.001	.350
55	75.30	78.30	3.00	.001	.310
55	78.30	81.30	3.00	.001	.630
55	87.30	88.80	1.50	.003	1.660
55	88.80	90.15	1.35	.002	1.930
55	140.95	142.95	2.00	.002	.800
56	14.15	15.65	1.50	.048	.510
56	15.65	17.15	1.50	.093	.670
56	51.55	54.55	3.00	.333	.017
56	62.10	63.85	1.75	1.050	.071
56	68.80	70.65	1.85	.691	.590
58	99.15	102.15	3.00	.003	.550

Snow accumulations prevented much detailed work on the grid but 27 rock samples mainly from mineralized float taken just south of Fall Creek, and from 8 outcrops, were analyzed to ascertain what rock types host significant gold mineralization. The rock samples (Maps 9B, E) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 1420 ppb, 2 and 1925 ppm, 4 and 16750 ppm, 9 and 105 ppm and 7 and 139 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 95 ppb, 130 ppm, 654 ppm, 26 ppm and 43 ppm, respectively. Using threshold values of 15 ppb Au, 20 ppm As, 60 ppm Cu, 80 ppm Pb and 100 ppm Zn, 68% of the gold values, 78% of the arsenic values, 22% of the copper values, 4% of the lead values and 8% of the zinc values are considered anomalous.

The three highest gold values were returned from three different float rock types: 1420 ppb gold, 1.68% copper, from a sample (86110) of massive sulfide containing coarse chalcopyrite; 400 ppb gold and 160 ppm copper, from a sample (86093) of sulfide matrix breccia (Photo 33); and, 180 ppb gold and 51 ppm copper (86587), from a chloritized, carbonated pyroclastic . The highest in-situ gold value was 35 ppb with 38 ppm copper (86585) from a pyritized, carbonatized, silicified pyroclastic near the bottom of Ice Creek. Higher grade, in-situ gold mineralization was not discovered in preliminary sampling on the Fall Creek Grid.

Much of the Fall Creek Grid covers steep slopes on which grass and tag alders flourish. Attempts to take soil samples in a number of locations proved fruitless because of coarse talus below a thin organic cover. In view of the frozen ground and snow cover at the time of the survey, and the general lack of outcrop in the vicinity of the areas of interest, the historical Noranda soil sampling, IP surveying and diamond drill results (Map 13A, Table 7) remain as important indications of a significant gold target. The follow-up of the Fall Creek Zone is strongly recommended in conjunction with additional work on the Ice Creek Zone as described below.

b. ICE CREEK ZONE (Tables 3-5, 7; Maps BL2, 2, 3, 8, 9A-E, 12A-C, 13A; Photos 34-36):

The Ice Creek Grid extends from L20050N south to beyond L19400N and represents the southern continuation of the Fall Creek Grid (Maps 9A-E, 12A-C). The grid is characterized by relatively steep topography, fairly extensive alteration (Photo 30; mainly T1: intense limonite, quartz, sericite, pyrite) associated with coarse pyroclastic rocks, including some narrow quartz carbonate vein and stringer chalcopyrite mineralization, on the east edge of the glacier at the top end of Ice Creek. Some of the most intense alteration is associated with a colour anomaly at the south end of the Base Line that denotes silicified and pyritized agglomerates (Map 12A; Photo 31). The alteration appears to be controlled by narrow fractures and shears generally with sub-vertical dips and a

Photo 33: Sulfide matrix breccia boulder - Fall Creek Grid
Sample 86093

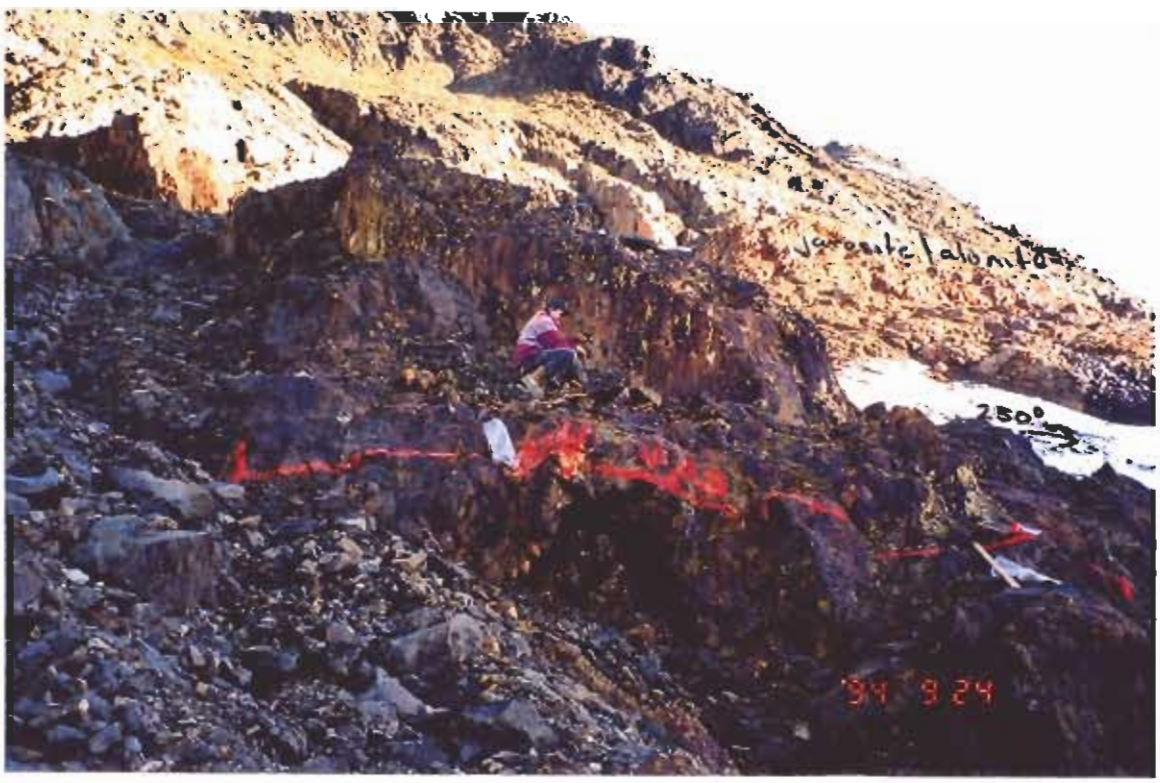


Photo 34: NW trending alteration zone - Ice Creek Grid
Sample 86421, 86422

variety of orientations. However, the overall strike of the zone is about 55 degrees. The strike contrasts with the apparent north and northwest trends of alteration zones in the vicinity of L19550N (Photo 34). However, throughout the Ice Creek Grid there is evidence of conjugate structures that control mineralization and that trend both east-west and north-south; and, northwest and northeast. Any exploration in the area should thus reflect the apparent orthogonal fabrics and the importance of structural junctions (Photo 35) in controlling plunging ore shoots.

Historically, Noranda carried out prospecting and sampling and located a number of copper showings (Photo 36) with interesting gold mineralization (values ranging up to 32.9 g Au/t and 3.08% Cu in grab samples). Three lines of IP surveying were completed and in 1990 two Holes, 90-55 and 90-58 were drilled to test the targets (Map 13A). As indicated in Table 7, a number of interesting gold values were returned in Hole 90-55 including a 15.35 m interval grading 1.35 g Au/t.

As shown in Tables 3-5 and on Maps 9A-E and 12A-C, during the Phase 1 program 110 rock samples, 13 stream sediment and 19 soil samples were collected on the Ice Creek Grid. The stream sediment samples (Maps 9B, C) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 304 ppb, 1 and 250 ppm, 11 and 270 ppm, 16 and 62 ppm and 37 and 180 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 54 ppb, 27 ppm, 68 ppm, 39 ppm and 101 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 62% of the gold values, 23% of the arsenic values, 54% of the copper values, and 46% of the zinc values are considered anomalous.

Most of the stream sediment samples taken between L20050N and L19550 have anomalous gold and copper contents and the three most southern samples in that area have anomalous zinc contents as well. The streams drain the ridge area to the east and are suggestive of a significant gold target in that direction.

The 19 soil samples generally taken between L19800N and L19550N (Map 9B, D) and upstream from the anomalous stream sediment samples give inconclusive results for the source of the sediment anomalies. The soil samples (Maps 9B, D) have gold, arsenic, copper, lead and zinc contents ranging between 1 and 143 ppb, 1 and 30 ppm, 14 and 231 ppm, 1 and 107 ppm and 45 and 211 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 17 ppb, 3 ppm, 51 ppm, 59 ppm and 136 ppm, respectively. Using threshold values of 10 ppb Au, 20 ppm As, 50 ppm Cu, 70 ppm Pb and 100 ppm Zn, 37% of the gold values, 3% of the arsenic values, 26% of the copper values, 26% of the lead values and, most interestingly, 74% of the zinc values are considered anomalous. Most of the anomalous gold soil values are relatively close to the Base Line between L19800N and L19700N, possibly indicating the source area for the northern

Photo 35: Structural junction - Ice Creek Grid
Looking 180 deg on L19800N

Photo 36: Upper copper showing - Ice Creek Grid

Samples 86444, 86447

Sample 86448

stream sediment anomalies but not apparently giving any specific indication of the source for the southern stream sediment anomalies. The elevated lead and zinc values relative to those from the other areas of the Fall Creek Target Area are particularly interesting, since zinc tends to halo gold mineralization in many areas of the Stewart Camp including the Red Mountain deposit. The elevated zinc values may be indicative of the eastern edge of a gold zone on the southern part of the Ice Creek Grid.

The 110 rock samples comprise chip, panel and composite samples used to evaluate the extensive areas of alteration on the Ice Creek Grid, particularly on the south end of the Base Line (Maps 12B, C). The rocks have gold, arsenic, copper, lead and zinc contents ranging between 1 and 13180 ppb, 2 and 250 ppm, 3 and 33800 ppm, 4 and 465 ppm and 5 and 1100 ppm, respectively. The gold, arsenic, copper, lead and zinc contents average 438 ppb, 22 ppm, 1114 ppm, 35 ppm and 112 ppm, respectively. Using threshold values of 15 ppb Au, 20 ppm As, 60 ppm Cu, 80 ppm Pb and 100 ppm Zn, 38% of the gold values, 33% of the arsenic values, 27% of the copper values, 5% of the lead values and 25% of the zinc values are considered anomalous.

The average gold and copper values are distorted by a number of higher grade samples taken in close proximity, the historic gold-copper zone discovered by Noranda south of L19550. Two Geofine composite samples of the mineralization, one over 0.15 m and another over 0.3 m returned 13.2 g Au/t and 3.28% Cu and 10.0 g Au/t and 2.37% Cu, respectively. A one meter chip of the same material gave 3.5 g Au/t and 0.88% Cu and a two meter chip gave 1.6 g Au/t and 0.46% Cu, suggesting that the mineralization is narrow.

Other than a number of elevated zinc values, the rock samples failed to return significant results from the large alteration zone at the south end of the Base Line. However, from L19525N to beyond 19800N, they do define a north trending anomalous zone denoted by weakly to strongly anomalous chip (values up to 500 ppb gold; sample 86481; photo 37) and float samples (values up to 4000 ppb gold and 2500 copper; sample 86497) of altered pyroclastic rocks, many of which tend to halo the two copper showings (i.e., the historic Noranda showings, including the one referenced above and the one on the Base Line north of L19600; Map 12A).

The rock values are fairly definitive of a source area for the stream sediment gold anomalies and provide a specific area of focus for further work. As indicated in Table 7 and on Map 13A, Hole 90-55 (assays include a 15.35 m interval grading 1.35 g Au/t; Photo 29) essentially collared in anomalous gold mineralization that appears to be the northern extension of the gold zone. Hole 90-58 collared about 100 m to the southwest of Hole 90-55 returned a 11.85 m section grading 0.30 g Au/t that could again halo a plunging, higher grade gold zone.

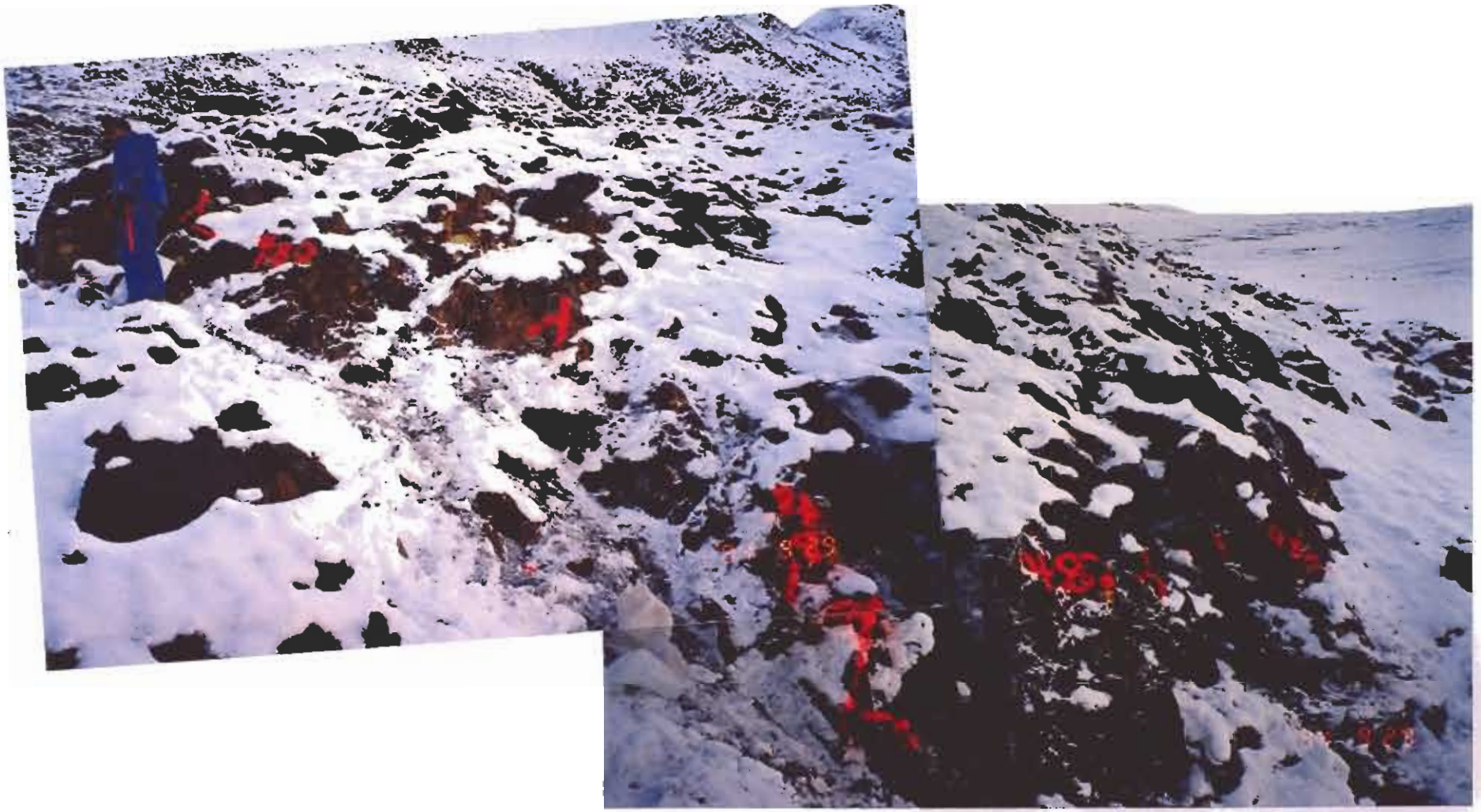


Photo 37: T1 altered pyroclastic rocks hosting anomalous gold values - Ice Creek Grid
Looking south to samples 86481 to 485

Follow-up of the anomalous sediment, rock samples and drill intersections on the Ice Creek Grid is recommended in conjunction with follow-up work on the Fall Creek Zone. The most significant drill intersections remain to be followed-up and it is thus imperative to determine the controls of the gold mineralization in order evaluate the along strike and/or down plunge potential of the mineralization.

The mineralized zones on the Fall Creek and Ice Creek Grids are structurally controlled and have a variety of orientations. A number of interpretations are possible with regard to known gold mineralization. For example, Noranda's interpretation of the IP anomalies associated with the drill targets in Holes 90-55 and 90-58 indicate a northeast trending zone. If the trend of that zone is projected along strike to the northeast, it would pass through many of the IP anomalies that Noranda has connected into north and northwest trending zones and perhaps explain why some of the Noranda holes have missed. In this interpretation, the northeast trending IP anomaly (the western part of the inverted Y shaped anomaly on Map 13A) that Noranda has interpreted would parallel the newly interpreted northeast trending anomaly with which the most significant mineralization intersected to date would be associated. A detailed gradiometer survey is recommended to facilitate the delineation of the orientation of mineralized the structures.

Whatever the orientation of the mineralized zones may be, plunging ore shoot morphologies may be present and unless plunge axies are ascertained, follow-up attempts will be frustrated. Any plunge morphology that exists on the Fall and Ice Creek Zones probably exists on the C Grid and its delineation on the former grids would greatly facilitate exploration on the property. Ore shoot plunge morphologies in the Stewart Camp are usually surrounded by pyritic haloes that often have specific polymetallic signatures that can be used for indicating the proximity to significant gold mineralization. For example, an indication of such signatures is provided by the results of the 1990 holes drilled by Noranda on the Fall Creek and Ice Creek Grids (Table 7, Map 13A):

Hole 90-49: a 16.4 m interval of anomalous copper, gold values; many zinc values are anomalous and arsenic values tend to be near background;

INTERPRETATION: HOLE 90-49 has a prospective signature indicative of proximal, higher grade gold mineralization and should be followed-up in conjunction with activities recommended on an expanded Grid C to evaluate numerous targets including the A Zone; Hole 90-49 appears to have evaluated an IP anomaly associated with the along strike southern extension of the A Zone (see Sections 9.5.ii.b, c)

Hole 90-53: a 23.7 m interval of anomalous copper, gold and arsenic values;

INTERPRETATION: the hole was drilled to test a coincident IP and very strong gold and copper soil geochemical anomaly; the signature may be indicative of significant, proximal gold mineralization and a deeper cut is recommended. Any drilling should proceed based on strike and plunge morphologies determined by initial follow-up drilling under Holes 88-45, 46, and 88-47, 48 (see INTERPRETATION re. Hole 90-56)

Hole 90-56 the hole was collared into an apparent 14 m interval of anomalous copper and gold values with elevated zinc values and low arsenic values;

INTERPRETATION: Hole 90-56, located 125 m along strike and about 100 m vertically above mineralization intersected in Holes 88-45-48, tested an IP anomaly; the hole may be proximal to significant gold mineralization that should first be evaluated with shallow follow-up holes under Holes 88-45, 46, and 88-47, 48;

Hole 90-55: an almost continuous, 76 m long interval of anomalous gold and arsenic values; the signature lacks anomalous copper; another zone is indicated in the last sample of the core that returned 800 ppb gold and 158 ppm As over 2 m;

Hole 90-58: a 22 m long interval of anomalous gold and arsenic at the end of the hole; the intersection lacks anomalous copper and zinc values and resembles the signature in Hole 90-55;

INTERPRETATION: Holes 90-55 and 90-58 are about 100 m apart, drilled on same zone interpreted via the IP survey and anomalous rocks and stream sediments on Ice Creek Grid; the wide, anomalous gold and arsenic signature is regarded as very prospective but probably a little more distal to the possible core of high grade gold mineral-ization; drilling should proceed in direction of increasing

copper and arsenic values; suggested direction to southwest or along a plunge axis direction; Hole 90-55 was collared in anomalous gold and arsenic values - first follow up hole should be a 25 m step back and drilled under Hole 55 at an inclination of -60 degrees.

It is recommended that the targets be evaluated with an initial Phase 2, 1000 m follow-up drill program using NQ core. More comprehensive, quantitative multi-element analyses are recommended on the core as well as structural interpretations, potassium staining and susceptibility surveying.

10. CONCLUSIONS, RECOMMENDATIONS:

i. CONCLUSIONS:

It is concluded that the Todd Creek property covers a prospective auriferous environment that continues to have excellent potential for hosting important gold deposits. The Geonex Aerodat helicopterborne survey was useful in delineating five broad target areas, three of which have potassium channel anomalies that are associated with iron oxide and clay colour anomalies. The target areas have favourable structural and magnetic signatures along with a number of weak EM conductors that offer important regional information with respect to reconnaissance activities and the follow-up of historical targets.

Many of the alteration zones on the Todd property are structurally controlled and the controlling, often orthogonal fabric entails a variety of orientations including north-south and east-west; and, northeast-southwest and northwest-southeast. Gold mineralization and geochemical signatures associated with pyritic haloes surrounding such mineralization will probably be, as is often the case in the Stewart Camp, controlled by such structures that commonly define plunge morphologies. Any follow-up drilling should thus keep in mind such possible controls and morphologies in order not to miss significant discoveries.

Initial regional reconnaissance of the geological environment indicated that a number of the alteration zones extended off the Todd property and that additional zones were located in proximity to the boundary. The Pat 1-10 and 18 claims were staked to cover the targets that include zones of jarosite/alunite alteration similar to that led to the discovery of the Red Mountain deposit.

Reconnaissance geological and geochemical surveys on the central part of the prominent Orange Mountain alteration zone suggests a polymetallic signature that is often found in some proximity to

significant gold mineralization in the Stewart Camp. Specific follow-up targets are identified via anomalous lead, zinc, arsenic, barium, cadmium, potassium, manganese, etc., with or without anomalous gold and copper values, in rock and sediment samples. In the Virginia Creek Target Area, the initial evaluation of the potassium channel anomaly located anomalous gold values in altered volcanic float and an anomalous stream sediment sample suggests a source area.

Follow-up of Noranda work carried out in the Yellow Bowl Zone of the Mid Zone Target Area discovered interesting gold mineralization that was not apparently located historically. Anomalous gold values in stream sediment samples suggest a large target area.

Follow-up activities on the North Zone of the Orange Mountain Target Area indicate a prospective auriferous environment on which no historic IP or soil sampling had been carried out. Based on the results of the 1994, geological and geochemical program and historical drilling and rock sampling results, the A Zone and B Zone continue to warrant detailed follow-up and other apparent targets in their immediate vicinity could reflect significant gold mineralization. There is evidence that the targets extend south onto the Fall Creek Grid and north to the fringe of the Orange Mountain alteration zone.

Work on the Fall Creek and the Ice Creek grids of the Fall Creek Target Area suggests a favourable geological environment with large pyritic haloes reminiscent of those associated with the Marc Zone mineralization at Red Mountain. The historical soil survey on the Fall Creek and Ice Creek grids have returned some of the strongest gold values that Geofine is aware of and that are interpreted to reflect important mineralization. The historical IP anomalies are indicative of the pyritic haloes within which exploration should be concentrated in order to discover ore.

A review of the historic drilling carried out by Noranda and Goldnev suggests that the gold mineralization intersected in 1988 remains to be followed-up. Additional holes drilled in 1990 tested IP anomalies and a number of wide intersections of indicator elements epitomize geochemical signatures that are often indicative of important gold mineralization. The signatures include anomalous gold-arsenic, gold-copper-arsenic, gold-copper-zinc and gold-copper-arsenic-zinc values. The signatures require further definition by additional quantitative multi-element analysis but are of sufficient strength to halo a major gold deposit.

ii. RECOMMENDATIONS:

It is thus recommended that a Phase 2, $600,000 program (Table 8) that includes 1800 meters of diamond drilling be carried out in 1995 to follow-up the positive results of the 1994 program and to continue the reconnaissance evaluation of the numerous regional targets. The Phase 2 program is recommended to commence by July 10, as weather conditions allow, in order to maximize the field season. Field surveys would be carried out from the drill camp in conjunction with the drill program, using an on site helicopter in order to optimize cost efficiencies and adverse weather conditions.

The specific components of the recommended Phase 2 program are detailed below:

a. SOUTH ZONE DEPOSIT AND REGIONAL RESEARCH:

An attempt should be made to option the South Zone deposit if it is available or to stake it if it comes open in April, 1995. A regional compilation of the geochemical, geological, mineralogical, and structural attributes of the showings and deposits (i.e., the South Zone deposit, Knob Zone, Yellow Bowl Zone, Ridge Zone, Ice Creek Zone, Fall Creek Zone and North Zone) in the north trending zone of intermittent mineralization that extends from the South Zone to Orange Mountain should be undertaken as an attempt to delineate target areas most prospective for hosting a major gold deposit. Multi-element analyses and petrographic studies should be carried out on the representative rock suite from the 1994 program to facilitate the study.

b. FALL CREEK, ICE CREEK ZONES, FALL CREEK TARGET AREA AND RIDGE ZONE, MID ZONE TARGET AREA:

A detailed gradiometer survey is proposed on the 1994 Fall Creek and Ice Creek grids in order to more precisely ascertain structural controls and geological contacts, i.e., do the main mineralized zones of interest as intersected in the 1988 and 1990 drill holes strike northeast; or, north and northwest? Close spaced gradiometer readings may prove useful in mapping the structural fabric. The Phase 1 geological and geochemical surveys should be extended to the west side of Ice Creek Glacier and to the Ridge Zone in order to delineate any extensions of the geochemical signatures and mineralization that might be indicative of a larger, regional target.

The proposed drill program initially contemplates 1000 m of diamond drilling for the follow-up of the historical drill intersections on the central Fall Creek and Ice Creek Zones. Five short holes are allocated to the initial confirmation and follow-up of Holes 88-45, 46; 88-47, 48; 90-53; and, 90-55

and 90-58 (Figure 13A). Careful, systematic drilling is required to further delineate structural controls and geochemical signatures in order to locate and evaluate anticipated ore shoot morphologies. Drill set-ups should be surveyed and the core structurally logged, stained for potassium alteration and surveyed with a susceptibility meter. Step-outs of no more than 25 to 40 m from positive intersections are recommended initially until the controls and morphology of the mineralization are understood. In view of the long, anomalous gold and arsenic intersection in Hole 90-55; of the apparent, partially defined orientation of the zone between Holes 90-55 and 90-58; and, of the prospective environment outlined by the 1994 Phase 1 geochemical surveys, a 25 m step-back hole from Hole 90-55 should be a priority test.

c. NORTHERN FALL CREEK ZONE, FALL CREEK TARGET AREA AND NORTH ZONE, ORANGE MOUNTAIN TARGET AREA:

The recommended Phase 2 program would include a 12 km expansion of the 1994 Grid C to total 15 km and to encompass the historic Noranda A Zone, B Zone and Orange Mountain grids. Grid C would also cover the postulated strike extension of the A and B Zones onto the Fall Creek grid and the extension of the Base Line Zone and Grid C soil anomalies to the north. IP, gradiometer, geological and geochemical surveys are proposed on the expanded Grid C to locate and prioritize drill targets. Some drill targets are already apparent on the B and A Zones (e.g., the 6.5 m chip sample on the B Zone that returned 2.2 gold/t, 1130 ppm arsenic, and 2.28% copper; the very anomalous gold mineralization intersected over wide intervals in Noranda Hole 40 on the A Zone; and, the 16 m intersection of anomalous gold, copper and zinc values intersected on the southern extension of the A Zone in the Noranda Hole 90-49).

d. YELLOW BOWL ZONE, MID ZONE TARGET AREA:

Detailed follow-up geological and geochemical surveys are proposed on a 6 km grid, as topography permits, on the Yellow Bowl Zone of the Mid Zone Target Area. The work would also include a gradiometer survey and quantitative multi-element analyses to delineate structural and geochemical signatures.

e. AMARILLO ZONE, ORANGE MOUNTAIN TARGET AREA:

Detailed follow-up geological and geochemical surveys are proposed to follow-up a number of polymetallic signatures returned from rock and stream sediment samples on the west and

north sides of the zone. The 1994 reconnaissance activities should be expanded to the north and south of the Amarillo Zone; and, the evaluation of the weak EM conductors on east flank of the potassium channel anomaly near the historical showings on the east side of Todd Creek is recommended.

f. AMERICAN CREEK ZONE, VIRGINIA CREEK ZONE, VIRGINIA CREEK TARGET AREA:

The anomalous gold values located in float samples near the toe of the American Creek Glacier should be followed-up in conjunction with additional reconnaissance surveys on the potassium channel anomaly and on the weak EM conductors that flank it.

The weak Geonex Aerodat EM conductors that may be the source of geochemical anomalies detected by Noranda on the south and north sides of the Virginia Creek Zone are recommended for reconnaissance evaluation.

g. NORTHEAST TARGET AREA:

A reconnaissance geological and geochemical evaluation of the weak EM conductors located on the east and west sides of Todd Creek is recommended. Creek valleys that bisect the conductors should be prospected and sediments collected as topography allows.

h. KNOB ZONE, SOUTH ZONE:

In view of the very prospective alteration that has returned some erratic gold values historically, a re-evaluation is warranted via reconnaissance geological and geochemical surveys.

i. REGIONAL RECONNAISSANCE ACTIVITIES:

Initial investigations are recommended on the most prospective of the regional alteration zones that have yet to be examined in the field. Glaciers continue to recede in the Stewart area, and new targets have recently been exposed on the Todd property that appear particularly interesting.

TABLE 8

PROPOSED PHASE 2, 1995 EXPLORATION BUDGET:

TODD CREEK PROPERTY

	ITEM	COST Ph 2
i)	Assessment work, aeromagnetic research	
ii)	Project permitting, bond	10500
iii)	Geochemical signature analyses	
iv)	Property compensation, access: est.	
v)	Structural fabric studies, airphotos, maps	1000
vi)	Field equipment, supplies	3500
vii)	Mob-demob, vehicle, shipping	7500
viii)	Helicopter support	38000
ix)	Analyses, assays 1000 @ $25	25000*
x)	Linecutting 18 km @ $800/km	15000*
xi)	Geophysical surveys: 20 km of mag @ $500/km	10000*
	12 km IP @ $2000/km	24000*
xii)	Land surveys	
xiii)	Food, sustenance, accommodation	6500
xiv)	Communications, courier, shipping	5000
xv)	Drafting, reporting, assess. rpts, fees	35000
xvi)	Staking costs, filing fees	25000
xvii)	Legal fees, insurance	2700
xviii)	Licences	
xix)	Salaries: local labour, 3 geologists, $1200/day @ 45 days;	54000
xx)	Stripping, trenching hours at $80/hr	
xxi)	Mineralogical studies, init. sample metallurgy	2500
xxii)	Diamond drilling 1800 m @ $150/m	270000*
xxiii)	Contingency	50000
	SUBTOTAL	585200
	OVERHEAD	15260
	GRAND TOTAL	$600000

* SUBJECT TO CONTRACTOR BIDS

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12. STATEMENT OF QUALIFICATIONS:

I, David E. Molloy, of the Town of Unionville, of the Regional Municipality of York, Ontario, hereby certify that:

i. I am President of Geofine Exploration Consultants Ltd. and Geofine (Jamaica) Limited with business addresses at 49 Normandale Road, Unionville, Ontario, L3R 4J8 and 30 Knutsford Blvd, 7th Floor, Kingston, Jamaica, respectively;

ii. I am a graduate of McMaster University, in the City of Hamilton, Ontario, with a B.A. in Philosophy (1968); I am a graduate of the University of Waterloo, in the City of Waterloo, Ontario, with a B.Sc. in Earth Science (1972);

iii. I have practised my profession in mineral exploration continuously for the past 22 years, including 4 years as a consultant; 10 years with St. Joe Canada Inc./Bond Gold Canada Inc./LAC Minerals Ltd. as Regional Geologist, Exploration Manager, Vice President and as Senior Vice President, Canadian Exploration; and, 8 years with Beth-Canada Mining Company as a Regional Geologist;

iv. I am a Fellow of The Geological Association of Canada;

v. I am a Member of the Canadian Institute of Mining and Metallurgy; of the Prospectors and Developers' Association; and of the Association of Exploration Geochemists;

vi. I have supervised the preparation of this report entitled "REPORT ON PHASE 1, 1994 EXPLORATION PROGRAM CARRIED OUT ON THE TODD PROPERTY, SKEENA MINING DIVISION, NORTHWESTERN BRITISH COLUMBIA, FOR ORACLE RESOURCES LTD., BY GEOFINE EXPLORATION CONSULTANTS LTD.";

vii. The recommendations herein are solely the responsibility of Geofine Exploration Consultants Ltd.

David E. Molloy, B.A., B.Sc., F.G.A.C.
President

Dated at Unionville, Ontario, this 15th day of November, 1994.

APPENDIX 1

ANALYTICAL RESULTS - LABORATORY SHEETS

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0222-RG1

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: SEP-01-94
Project: 6500 Copy 1. Geofine Exploration, Vancouver, B.C.
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted AUG-24-94 by David Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86001	23	42	496	51	58
86002	18	23	106	36	49
86003	3	8	24	13	9
86004	1	10	27	6	7
86006	14	31	36	13	37
86007	6	6	20	23	21
86008	15	14	166	11	38
86009	1660	99	98000	745	163
86010	83	34	754	23	78
86011	20	102	446	22	18
86012	1678	45	66800	275	6940
86013	38	15	201	26	124
86014	59	28	472	28	117
86016	20	32	188	17	14
86017	37	35	256	22	45
86018	114	27	32	16	5
86019	6	11	22	14	8
86020	91	96	71	23	29
86021	512	1150	1510	41	2
86023	209	500	3410	22	19
86024	129	375	644	29	26
86027	16	5	24	11	6
86028	11	97	120	27	20
86029	3	2	18	9	4

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4S-0222-RG2

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: SEP-01-94
Project: 6500 Copy 1. Geofine Exploration, Vancouver, B.C.
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted AUG-24-94 by David Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86030	49	225	181	21	11
86031	4	8	9	8	12
86032	3	12	6	20	17
86033	5	10	11	5	2
86034	5	7	10	3	3
86201	4	14	26	95	52
86203	5	58	12	32	21
86205	11	39	15	51	37
86206	23	525	329	246	76
86209	3	25	38	67	68
86211	8	86	16	113	49
86212	6	2475	14	132	67
86213	6	475	59	185	136
86214	5	30	17	45	164
86215	7	33	15	72	45
86216	5	36	13	225	64
86217	35	1500	964	459	605
86218	3	25	55	51	65
86220	22	2300	75	2150	1045
86221	2	37	34	49	99
86223	29	64	84	124	226
86224	1	13	11	977	151
86226	3	725	30	133	100
86227	2	22	58	23110	1565

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Geochemical Analysis Certificate

4S-0222-RG3

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: SEP-01-94
Project: 6500 Copy 1. Geofine Exploration, Vancouver, B.C.
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted AUG-24-94 by David Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86228	1	450	35	97	76
86229	6	25	110	426	286
86230	26	36	410	354	423
86232	11	118	31	77	76
86233	13	375	59	666	675
86234	6	99	79	193	573
86235	5	90	18	88	49
86237	13	250	53	599	1240
86238	34	37	40	132	131
86239	5	69	33	59	190
86240	9	28	35	2445	1230
86241	10	112	16	137	90
86242	14	100	14	83	59
86245	11	27	33	97	218
86246	3	76	33	95	256
86247	16	38	12280	17030	130000
86248	21	99	90	476	493
86249	7	57	47	104	316
86250	8	12	12	24	40
86251	117	70	2445	2040	6830
86252	38	109	130	178	150
86253	6	55	34	80	250
86254	4	60	35	87	236
86255	3	53	32	84	209

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4S-0222-RG4

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: SEP-01-94
Project: 6500 Copy 1. Geofine Exploration, Vancouver, B.C.
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted AUG-24-94 by David Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86257	4	58	27	76	235
86258	9	875	31	879	48
86260	7	49	12	65	40
86261	13	88	32	66	64
86262	10	119	8	83	94
86263	64	350	440	562	11500
86264	6	1700	22	80	63
86265	29	116	126	102	187
86267	55	400	93	110	170
86268	5	325	52	171	240
86269	10	100	28	149	124
86270	20	450	29	212	108
86272	11	118	22	85	32
86274	5	47	30	158	138
86275	2	33	18	61	180
86277	17	90	31	39	271
86279	7	625	23	78	124
86280	6	575	83	254	302
86281	2	112	106	63	48
86282	4	68	64	133	389
86283	1	8	12	17	19
86284	16	30	3400	16	96
86285	3	36	30	111	203
86286	2	75	63	155	346

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Geochemical Analysis Certificate

4S-0222-RG5

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: SEP-01-94
Project: 6500 Copy 1. Geofine Exploration, Vancouver, B.C.
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 8 rock samples submitted AUG-24-94 by David Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86287	3	56	60	231	501
86288	3	40	65	150	344
86289	6	26	52	100	261
86290	6	23	29	76	119
86291	13	28	23	49	66
86292	5	41	38	108	228
86293	27	70	649	533	4420
86294	2	75	49	152	218

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Geochemical Analysis Certificate

4S-0240-RG4

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: SEP-08-94
Project: 6500 Copy 1. Geofine Exploration, Smithers, B.C.
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 3 PULP samples submitted AUG-30-94 by D. Kennedy.

Sample Number	Au-Fire PPB
86068	701
86069	20
86071	2790

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Assay Certificate

4S-0240-PA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: David Molloy

Date: SEP-08-94
Copy 1. Geofine Exploration, Smithers, B.C.

We hereby certify the following Assay of 3 pulp samples submitted AUG-30-94 by D. Kennedy.

Sample Number	Au-Fire g/tonne	Au-Fire oz/ton
86064	22.67	.661
86065	11.50	.335
86067	14.50	.423

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Geochemical Analysis Certificate

4S-0287-RG1

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-31-94
Project: 6500
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted SEP-27-94 by D. Molloy.

Sample Number	As PPM	Cu PPM	Cu %	Pb PPM	Zn PPM	Smaple Weight
86122	3	12		20	185	2.2
86123	20	11		33	58	2.2
86124	19	13		30	35	2.2
86125	22	8		192	427	.8
86126	7	11		26	24	2.0
86127	5	9		21	14	2.2
86128	3	3		13	6	2.4
86129	4	6		12	6	2.2
86130	7	9		15	8	2.4
86131	19	30		32	92	2.2
86132	20	11		22	18	2.2
86133	16	9		23	40	2.2
86134	12	27		34	85	2.6
86135	11	30		38	290	2.8
86136	13	71		33	47	2.6
86137	18	29		39	108	2.2
86139	14	32		24	35	4.8
86140	11	>10000	3.275	31	426	2.4
86141	19	8820		28	333	2.4
86401	2	244		36	349	1.8
86402	6	52		29	47	4.6
86403	7	37		27	65	3.8
86404	4	42		23	35	3.8
86405	8	13		28	22	7.0

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0297-RA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: David Molloy

Date: OCT-12-94
Copy 1. Geofine Exploration, Unionville, ON

We hereby certify the following Assay of 1 PULP samples submitted OCT-04-94 by Janine Calder.

Sample Number	Au-Fire g/tonne	Au-Fire oz/ton	Cu %
86447	10.04	.293	2.369

Certified by _____

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FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0297-RG1

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-12-94
Project: 6500 Copy 1. Geofine Exploration, Unionville, ON
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted OCT-04-94 by Janine Calder.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86142	1	3	73	14	93
86145	2	5	34	14	80
86146	4	3	14	17	106
86325	1	21	9	189	432
86326	1	6	18	24	58
86327	4	1	20	18	27
86332	5	49	21	39	39
86341	3	37	17	156	402
86342	8	106	22	88	21
86348	2	15	10	19	10
86349	3	17	9	21	8
86428	2	33	19	32	85
86429	2	29	24	27	105
86430	3	10	13	23	17
86431	1	11	8	18	13
86432	4	9	10	21	24
86433	1	10	12	23	44
86434	2	13	24	21	56
86435	2	6	10	26	120
86436	3	20	14	62	69
86437	1	14	13	465	1100
86438	1	11	11	59	526
86439	2	20	8	193	445
86440	9	5	9	19	22

Certified by _____

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TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0297-RG2

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-12-94
Project: 6500 Copy 1. Geofine Exploration, Unionville, ON
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted OCT-04-94 by Janine Calder.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86441	2	14	27	26	35
86444	1620	17	4600	28	248
86445	5	24	33	41	95
86446	189	23	382	21	75
86447	>10000	16	>10000	36	256
86448	250	18	783	21	112
86449	18	16	61	20	92
86450	7	19	18	206	459
86453	8	11	39	32	71
86454	6	25	12	16	18
86456	2	12	8	23	73
86457	3	23	31	65	205
86458	1	20	26	374	503
86459	6	34	27	29	74
86460	4	14	12	39	62
86463	6	13	30	22	103
86465	5	46	13	23	27
86467	6	6	14	11	10
86472	675	10	982	9	18
86474	12	9	24	14	23
86475A	5	22	9	195	442
86476	30	30	15	14	31
86477	19	14	20	15	57
86478	63	25	29	13	76

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Geochemical Analysis Certificate

4S-0297-RG3

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-12-94
Project: 6500 Copy 1. Geofine Exploration, Unionville, ON
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted OCT-04-94 by Janine Calder.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86479	417	9	309	16	50
86480	20	8	20	12	35
86481	500	13	96	11	44
86482	26	7	13	14	69
86483	35	17	119	10	48
86484	16	8	17	10	26
86486	108	50	20	18	26
86488	1	11	19	14	12
86490	1	12	7	12	24
86492	4	5	10	12	6
86493	3	12	9	15	18
86494	314	9	8130	9	17
86495	181	8	1305	12	18
86496	22	6	47	11	15
86497	4000	64	2500	171	223
86499	18	29	576	14	48
86502	93	56	30	25	11
86511	40	77	61	56	251
86512	2	4	37	15	93
86526	3	21	9	210	459
86527	40	250	16	33	28
86528	24	24	17	16	44
86529	51	90	43	13	34
86533	1	45	11	17	16

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FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0297-RG4

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: David Molloy

Date: OCT-12-94
Copy 1. Geofine Exploration, Unionville, ON

We hereby certify the following Geochemical Analysis of 2 rock samples submitted OCT-04-94 by Janine Calder.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86630	7	73	16	20	10
86631	648	24	4200	6	23

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FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0304-RG1

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-31-94
Project: 6500
Attn: D. Molloy

We hereby certify the following Geochemical Analysis of 13 rock samples submitted OCT-18-94 by D. Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Cu %	Pb PPM	Zn PPM
86536	72	70	103		19	43
86537	79	25	24		13	28
86539	144	79	115		15	31
86546	20	29	195		24	49
86548	25	32	76		28	33
86551	1	17	18		16	52
86552	3	20	15		19	96
86553	325	39	12		28	21
86704	985	200	4120		31	117
86705	211	47	>10000	1.635	30	161
86710	3255	5000	>10000	6.050	68	58
86711	1220	600	>10000	3.980	36	109
86720	4490	1875	>10000	6.030	45	76

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FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0305-RG1

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-18-94
Project: 6500
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted MMM-DD-YY by .

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86147	5550	550	3920	113	302
86148	1095	35	650	22	88
86149	1890	300	2090	20	101
86184	392	750	61	28	56
86185	14	53	42	23	54
86188	23	78	98	24	45
86189	6	24	107	203	16
86190	36	2900	79	24	60
86194	2	37	40	16	45
86195	184	79	112	36	59
86196	65	108	210	25	207
86197	1310	2150	213	548	100
86198	28	100	16	31	28
86199	1	22	14	206	455
86200	47	77	25	21	27
86296	29	23	9	18	12
86297	695	475	3480	36	45
86299	63	74	36	28	29
86306	2	15	11	17	37
86307	3	24	7	19	10
86308	1	9	12	13	9
86309	10	14	10	14	11
86310	1	16	9	15	10
86311	1	12	17	20	9

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Geochemical Analysis Certificate

4S-0305-RG2

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-18-94
Project: 6500
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted MMM-DD-YY by .

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86312	6	24	34	21	13
86313	2	2	12	11	10
86314	1	17	19	15	20
86315	2	4	8	14	11
86316	1	2	6	11	9
86317	4	13	24	20	104
86318	1	19	7	16	38
86319	2	28	19	38	17
86320	1	12	12	14	10
86321	1140	200	>10000	37	146
86322	304	1025	>10000	48	73
86323	48	38	180	26	117
86534	10	9	83	21	71
86540	106	119	32	17	8
86541	17	33	74	23	52
86542	304	250	14	16	37
86543	49	29	27	19	25
86547	9	30	36	28	69
86554	2	6	15	19	20
86556	1	19	37	24	62
86557	14	57	42	28	46
86558	178	17	45	18	57
86559	6	28	14	23	14
86562	2	3	25	17	15

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Geochemical Analysis Certificate

4S-0305-RG2

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-31-94
Project: 6500
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted OCT-06-94 by D. Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Cu %	Pb PPM	Zn PPM
86312	6	24	34		21	13
86313	2	2	12		11	10
86314	1	17	19		15	20
86315	2	4	8		14	11
86316	1	2	6		11	9
86317	4	13	24		20	104
86318	1	19	7		16	38
86319	2	28	19		38	17
86320	1	12	12		14	10
86321	1140	200	>10000	1.293	37	146
86322	304	1025	>10000	1.920	48	73
86323	48	38	180		26	117
86534	10	9	83		21	71
86540	106	119	32		17	8
86541	17	33	74		23	52
86542	304	250	14		16	37
86543	49	29	27		19	25
86547	9	30	36		28	69
86554	2	6	15		19	20
86556	1	19	37		24	62
86557	14	57	42		28	46
86558	178	17	45		18	57
86559	6	28	14		23	14
86562	2	3	25		17	15

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TELEPHONE (604) 847-3004
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Geochemical Analysis Certificate

4S-0305-RG3

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-18-94
Project: 6500
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 24 rock samples submitted MMM-DD-YY by .

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Pb PPM	Zn PPM
86563	38	5	24	17	13
86565	2	7	23	21	16
86569	8	3	23	30	93
86570	10	3	24	90	147
86571	17	4	15	44	205
86573	43	18	3	186	422
86575	15	5	17	18	29
86576	7	7	21	20	27
86577	2	13	20	32	123
86579	10	4	27	25	41
86581	12	12	40	26	65
86584	33	24	18	16	15
86585	35	80	38	18	32
86587	180	82	51	46	57
86589	40	33	57	20	54
86590	82	18	29	15	64
86591	2	14	28	24	79
86593	34	23	10	9	7
86595	26	20	5	187	418
86596	18	17	42	33	79
86643	27	11	8	14	40
86645	34	10	11	10	25
86701	23	9	16	18	91
86702	1640	775	2700	36	77

Certified by _____

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TELEPHONE (604) 847-3004
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Geochemical Analysis Certificate

4S-0305-RG4

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: OCT-31-94
Project: 6500
Attn: David Molloy

We hereby certify the following Geochemical Analysis of 8 rock samples submitted OCT-06-94 by D. Molloy.

Sample Number	Au-Fire PPB	As PPM	Cu PPM	Cu %	Pb PPM	Zn PPM
86703	5	17	38		24	113
86706	1300	550	5250		156	103
86707	22	15	48		23	115
86708	1650	400	9670		25	109
86712	24	21	14		195	446
86718	4700	700	>10000	1.630	26	63
86719	4800	550	7400		25	64
86721	2980	325	4140		23	62

Certified by _____

MIN-EN LABORATORIES

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0222-LJ1
DATE: 94/09/01
* stream sediment * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86005	.1	.63	1	1	297	1.7	5	.50	.1	15	133	6.31	.23	16	.59	1737	3	.01	27	1480	45	8	52	3	.01	51.4	94	1	8	2	4	11
86015	.1	.66	1	1	335	1.6	5	.36	.1	14	122	6.00	.27	16	.54	1578	6	.01	27	1230	39	7	53	1	.01	53.0	80	1	8	2	2	65
86022	.1	.69	1	1	293	2.0	5	.32	.1	17	343	7.89	.31	14	.47	1426	6	.01	31	1170	39	7	48	1	.01	50.7	75	1	13	2	2	46
86026	.1	.52	1	1	574	1.3	4	.08	.1	7	311	7.11	.40	5	.18	677	8	.01	25	1720	31	4	37	2	.01	40.3	37	1	13	1	1	38
86035	.1	.89	1	2	524	1.7	7	.34	.1	15	77	6.41	.28	19	.67	823	4	.01	26	1310	33	10	97	1	.07	101.7	56	1	10	3	6	2
86036	.1	.82	1	1	385	1.9	4	.65	.1	12	71	5.23	.36	16	.76	1380	7	.01	23	1660	45	12	71	1	.01	54.7	89	1	6	2	5	7
86037	.1	.65	1	1	385	1.7	4	.29	.1	14	104	6.01	.26	14	.47	1255	6	.01	26	1120	30	6	58	1	.01	50.0	76	1	10	2	3	68
86038	.1	.66	1	1	266	2.0	3	.33	.1	17	217	7.36	.29	14	.48	1296	6	.01	29	1200	39	6	46	1	.01	51.1	76	1	11	2	2	37
86039	.1	.57	1	1	432	1.7	2	.19	.1	16	139	7.36	.26	11	.32	1972	8	.01	32	1150	33	4	39	1	.01	41.1	72	1	11	1	1	25
86040	.1	.32	1	1	276	1.6	2	.14	.1	13	140	6.90	.19	2	.13	1011	5	.01	29	840	15	1	34	1	.01	27.8	29	1	11	1	4	29
86041	.1	.85	1	1	162	1.8	3	.02	.1	16	83	6.69	.30	4	.16	2264	1	.01	30	1670	26	6	33	1	.01	106.3	68	1	12	2	2	43
86042	.1	.75	1	1	224	2.1	3	.12	.1	20	106	9.09	.22	7	.26	1874	1	.01	38	1990	23	4	40	1	.01	116.7	79	1	14	2	6	57
86202	1.9	1.11	1	1	1780	2.3	6	.12	6.8	26	205	7.01	.39	9	.17	2754	14	.01	34	2270	477	30	133	1	.02	55.3	686	1	12	2	2	13
86204	.1	1.34	1	1	2007	2.9	7	.15	16.0	45	360	7.75	.35	9	.15	5874	17	.01	46	2730	518	39	149	1	.02	55.7	943	1	13	3	6	13
86207	.1	.69	1	7	237	1.9	4	.01	.1	48	142	>15.00	.37	1	.04	7979	4	.01	65	2850	63	4	32	1	.01	62.3	234	1	24	1	1	35
86208	1.9	.78	1	1	2077	2.0	4	.13	5.8	17	137	6.07	.35	7	.15	1668	11	.01	27	1800	426	27	131	1	.02	51.9	589	1	10	2	5	11
86210	2.7	1.13	1	1	1274	1.1	4	.20	.7	6	49	3.02	.24	16	.25	644	4	.01	15	960	133	20	88	1	.03	66.7	504	1	4	3	8	8
86222	1.8	.95	1	1	2436	2.4	5	.15	11.4	30	186	6.54	.35	8	.13	2668	10	.01	33	1930	514	27	158	1	.02	54.7	912	1	10	2	2	14
86231	1.0	1.14	1	1	2184	3.2	5	.17	22.7	49	254	8.15	.32	7	.10	3670	11	.01	41	2410	460	33	178	1	.01	49.3	1406	1	12	2	1	16
86236	49.8	.45	628	1	660	1.8	1	.11	26.5	9	279	10.79	.43	1	.05	243	104	.01	34	3740	2952	53	161	1	.01	49.0	657	1	15	1	1	36
86256	.1	.72	1	1	2671	1.9	5	.24	12.8	23	105	5.45	.46	5	.12	4204	10	.01	33	1910	273	21	159	1	.01	36.7	543	1	7	1	2	14
86266	5.3	.78	1	1	1819	1.5	3	.05	.1	13	88	7.57	.45	3	.14	2249	11	.01	30	2290	368	24	126	1	.02	53.7	169	1	11	2	2	21
86273	2.0	.96	1	1	2473	2.0	6	.13	13.2	28	264	7.61	.42	5	.12	4589	12	.01	39	2060	539	29	138	1	.01	52.1	899	1	11	2	1	29
86276	.1	.74	1	1	3011	1.6	4	.05	.1	14	78	8.67	.47	4	.18	2048	3	.01	33	2420	342	16	150	1	.03	63.6	239	1	12	2	3	11

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0222-SJ1+2
DATE: 94/09/01
• soils * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
TD1-1	1.2	.93	1	1	268	.8	6	.08	.1	5	22	4.08	.14	7	.26	580	3	.01	19	560	96	14	40	1	.06	60.7	73	1	6	3	7	1
TD1-2	2.9	.70	1	1	712	.3	3	.03	.1	2	10	2.00	.17	1	.07	174	4	.01	9	640	55	10	45	1	.03	50.8	33	1	3	2	4	3
TD1-3	5.7	1.07	1	1	3307	1.2	3	.15	5.1	4	98	4.41	.21	3	.09	167	17	.01	18	2200	439	27	156	1	.01	31.1	220	1	7	2	2	13
TD1-4	3.6	.46	226	1	3554	.8	2	.25	7.8	3	30	3.42	.25	1	.06	111	19	.01	13	1070	315	16	167	1	.01	35.8	242	1	4	1	5	9
TD1-5	4.3	.72	1	1	2463	1.6	1	.31	11.4	7	108	4.09	.25	3	.10	509	11	.01	20	3080	695	18	176	1	.01	25.3	370	1	5	1	9	6
TD1-6	4.2	.48	119	1	3183	1.2	3	.35	10.4	6	56	4.50	.28	1	.09	496	18	.01	19	2140	332	16	206	1	.01	31.2	302	1	4	1	6	5
TD1-7	4.0	3.37	1	1	1353	2.3	7	.10	2.0	23	113	2.80	.19	5	.09	3800	16	.01	25	3690	253	58	148	1	.01	26.4	323	1	6	7	5	3
TD1-8	9.1	1.02	1	1	1932	2.0	6	.11	17.3	19	185	6.63	.38	6	.15	2634	6	.01	31	1700	355	22	201	1	.03	68.7	544	1	11	2	4	2
TD1-9	2.7	.78	1	1	901	1.1	2	.08	.5	5	76	3.26	.24	2	.08	1139	4	.01	17	1140	92	11	63	1	.02	59.7	143	1	5	2	5	9
TD1-10	19.9	3.11	1	1	444	3.1	9	.16	6.6	14	327	3.96	.15	9	.06	9897	10	.01	45	3760	501	54	125	1	.02	34.4	380	1	8	6	6	7
TD1-11	.1	1.52	1	1	761	1.5	6	.14	.1	10	102	4.07	.32	32	.50	2150	4	.01	30	720	94	25	85	1	.06	74.8	301	1	8	4	13	4
TD1-12	1.3	1.21	1	1	238	.9	5	.07	.1	7	46	3.55	.27	10	.25	1897	4	.01	20	1130	80	20	56	1	.04	66.1	112	1	6	4	11	1
TD1-13	1.7	1.07	1	1	279	1.0	2	.05	.1	5	30	5.43	.24	1	.07	819	4	.01	22	1180	210	14	39	1	.01	54.6	68	1	8	2	4	1
TD1-14	6.5	1.36	1	1	385	1.3	2	.06	.1	4	29	4.05	.19	8	.16	639	4	.01	18	1450	117	20	53	1	.03	60.2	113	1	7	3	6	1
TD1-15	6.5	1.12	1	1	1901	1.5	2	.09	.1	10	46	4.68	.32	12	.16	2079	5	.01	26	1590	247	21	96	1	.01	56.4	258	1	8	2	3	3
TD1-16	.1	1.20	1	1	528	1.3	4	.12	.1	7	28	3.54	.33	17	.18	2978	4	.01	24	1530	114	22	61	1	.01	66.5	263	1	6	3	6	1
TD1-17	.1	.45	1	1	275	1.1	4	.41	.3	5	15	2.77	.17	7	.27	1260	1	.01	14	1070	66	8	58	2	.04	30.1	193	1	1	1	2	1
TD1-18	6.8	1.27	1	1	936	1.0	3	.07	.1	4	39	3.94	.22	5	.17	535	3	.01	16	1760	175	19	74	1	.03	61.6	87	1	6	3	7	4
TD1-19	4.3	.64	1	1	1969	1.3	3	.14	1.9	15	72	5.81	.31	3	.11	2022	9	.01	27	3090	472	19	145	1	.01	48.4	318	1	8	1	1	7
86219	1.6	.94	1	1	2940	1.6	4	.08	.1	10	67	4.52	.35	9	.24	1657	4	.01	23	1330	180	17	125	1	.03	58.4	238	1	8	2	3	4
86243	9.8	.21	1232	1	659	1.4	1	.01	6.0	5	82	11.62	.90	1	.03	67	35	.01	34	4850	1052	38	118	1	.01	24.4	81	1	16	1	1	34
86244	10.5	.16	1176	1	1290	1.4	1	.02	.1	7	95	>15.00	.38	1	.02	4	23	.01	46	3840	603	22	89	1	.01	14.5	103	1	22	1	1	24
86225	.1	.47	1	1	478	1.0	5	.42	1.1	5	16	3.03	.20	8	.28	1324	1	.01	17	1120	91	9	68	2	.04	31.8	201	1	2	1	2	2
86259	.1	.48	1	1	1345	1.3	4	.04	.1	16	75	6.03	.36	1	.07	1802	6	.01	24	2100	187	10	73	1	.01	43.9	153	1	10	1	1	14
86271	2.2	.31	2132	1	975	1.2	1	.01	9.6	10	64	>15.00	.44	1	.04	405	10	.01	49	2980	293	1	76	1	.01	59.1	166	1	21	1	1	24
86278	10.6	.36	2535	7	564	1.8	1	.01	22.1	15	155	>15.00	.96	3	.02	1577	1	.03	58	2270	533	8	374	1	.01	62.4	457	1	25	1	1	24

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0300-SJ1
DATE: 94/10/12
* soil * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86442	.1	.47	1	1	422	2.2	3	.17	.1	12	30	3.46	.59	9	.14	3566	2	.01	20	1180	62	9	56	1	.01	30.7	177	1	1	1	1	1
86443	.1	.41	1	1	390	2.0	4	.23	.1	9	23	3.14	.60	10	.16	3169	2	.01	18	1030	55	8	61	1	.01	27.7	182	1	1	1	1	1
86451	.1	.49	1	1	963	2.1	5	.26	.1	19	231	4.58	.74	9	.17	3821	3	.01	24	1420	107	10	77	2	.01	39.1	168	1	1	1	1	34
86461	.1	.95	1	1	677	1.5	4	.23	.1	7	17	2.74	.90	17	.32	1715	3	.01	15	990	68	20	55	1	.01	50.3	143	1	1	2	3	2
86462	.1	.97	1	1	570	1.7	5	.24	.1	8	20	3.49	.91	16	.31	1807	3	.01	18	1270	69	21	65	1	.01	57.2	171	1	1	2	4	1
86464	.1	.70	1	64	520	2.2	8	.10	.1	30	47	9.03	.66	11	.27	5822	1	.01	38	2430	63	12	83	1	.01	70.7	140	1	1	2	1	1
86466	.1	1.09	1	1	536	1.9	6	.23	.1	7	31	3.81	1.24	20	.39	1583	3	.01	20	1350	63	23	58	1	.01	61.3	201	1	1	3	4	7
86468	.1	.89	1	1	826	2.0	6	.24	.1	7	26	3.13	1.31	14	.31	2529	3	.01	18	910	80	21	51	2	.01	51.8	127	1	1	3	4	6
86469	.1	.86	1	1	735	1.8	5	.27	.1	7	30	3.55	1.11	14	.31	2891	3	.01	21	1080	74	19	53	1	.01	53.1	133	1	1	2	4	11
86470	.1	.98	1	1	1191	1.7	5	.27	.1	7	23	3.17	1.25	20	.41	1831	4	.01	18	1170	79	21	61	1	.01	62.3	164	1	1	3	4	1
86485	.1	.67	1	1	1127	3.6	5	.23	.1	23	59	4.35	.90	15	.11	3648	3	.01	25	1420	56	15	97	1	.01	36.2	143	1	1	2	1	3
86487	.1	.57	1	1	790	1.8	5	.29	.1	12	27	3.99	1.02	17	.36	2234	3	.01	19	1270	64	11	75	1	.01	44.4	154	1	1	2	3	1
86489	.1	.76	1	1	320	2.1	5	.15	.1	15	66	5.67	1.06	15	.35	2677	3	.01	28	1590	60	15	58	1	.01	58.9	142	1	1	2	3	26
86491	.1	.93	1	1	424	1.8	3	.15	.1	10	37	3.96	1.02	19	.37	1956	4	.01	21	1400	80	18	51	1	.01	56.0	211	1	1	2	3	9
86531	.1	.27	1	19	268	2.9	9	.06	.1	9	106	>15.00	.77	1	.06	110	1	.01	47	2750	1	1	92	1	.01	46.2	45	1	2	1	1	143
86532	.1	.65	1	1	649	2.3	5	.30	.1	12	35	5.16	1.22	17	.42	1785	2	.01	22	1370	67	14	86	1	.01	56.0	130	1	1	2	2	2

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0300-LJ1+2
DATE: 94/10/12
* stream * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86143	.1	.66	1	1	219	1.3	6	.61	.1	9	38	3.57	.12	24	.88	1380	5	.01	56	1080	33	15	137	2	.03	49.1	171	1	1	3	27	8
86144	.1	.68	1	1	213	1.5	6	.66	.1	9	38	3.51	.13	23	.89	1296	4	.01	56	1090	36	14	138	1	.03	48.4	167	1	1	3	26	4
86151	.1	.66	1	1	1131	1.4	11	.76	.1	8	19	3.90	.24	25	.63	1130	3	.02	17	1080	31	14	122	1	.09	77.7	75	1	1	3	7	7
86152	.1	.72	1	1	1168	1.5	11	.46	.1	9	21	4.49	.27	28	.67	1377	3	.02	19	970	42	15	121	2	.09	92.8	86	1	1	4	7	15
86153	.1	.73	1	37	864	1.3	10	1.35	.1	8	24	3.98	.31	27	.71	1006	3	.02	19	1200	37	16	111	1	.08	82.9	82	2	1	3	9	5
86154	.1	.72	1	7	923	1.5	11	.44	.1	9	21	4.45	.28	27	.70	1524	2	.02	20	1150	37	16	107	2	.09	89.9	86	1	1	3	7	5
86155	.1	.73	1	1	565	1.6	10	.41	.1	9	20	4.14	.30	30	.65	1431	4	.02	18	1100	40	15	88	3	.07	79.8	83	1	1	4	6	6
86156	.1	.75	1	58	1172	1.6	9	.63	.1	9	39	4.25	.24	27	.81	2004	3	.01	21	1200	43	15	145	1	.06	82.6	96	1	1	4	7	4
86157	.1	.72	1	31	903	1.4	9	.47	.1	9	18	4.37	.23	28	.66	1489	2	.01	20	790	33	14	111	1	.09	88.9	76	1	1	3	6	5
86158	.1	.75	1	4	500	1.3	12	.53	.1	9	20	4.33	.20	29	.75	1289	3	.02	19	880	38	16	97	1	.11	101.2	68	1	1	4	7	7
86159	.1	.73	1	61	741	1.5	10	.56	.1	9	25	4.21	.23	30	.74	1890	4	.01	22	1190	39	16	102	1	.08	82.1	88	1	1	3	7	5
86160	.1	.70	1	1	837	1.4	9	.48	.1	9	22	4.01	.21	28	.72	1378	3	.01	17	1210	40	15	100	1	.06	75.4	90	1	1	3	6	3
86161	.1	.68	1	1	1234	1.4	9	.59	.1	8	31	4.10	.18	27	.77	1169	3	.01	19	1270	41	15	132	1	.05	84.2	106	1	1	3	10	3
86162	.1	.77	1	1	548	1.6	8	.33	.1	9	21	4.26	.22	30	.77	1123	3	.01	19	1170	39	16	75	2	.05	73.6	90	1	1	3	7	37
86163	.1	.80	1	44	917	1.5	9	.64	.1	10	28	4.33	.23	30	.77	1731	4	.02	22	1070	47	17	128	2	.07	82.4	94	1	1	4	9	4
86164	.1	.74	1	51	299	1.3	10	.43	.1	8	24	3.83	.19	30	.73	1116	3	.01	17	800	32	14	68	1	.09	84.4	68	1	1	3	6	58
86165	.3	.73	1	89	305	1.2	9	.60	.1	7	28	3.43	.19	30	.80	678	2	.02	15	1160	34	15	113	1	.08	81.9	71	2	1	3	6	2
86166	.1	.69	1	9	1075	1.3	12	.50	.1	9	22	4.36	.20	26	.76	1779	3	.02	21	1210	33	16	119	1	.08	85.2	82	1	1	4	8	4
86167	.1	.79	1	1	903	1.4	10	.93	.1	9	21	3.98	.28	27	.80	1301	3	.02	19	1180	38	19	114	2	.06	75.5	89	1	1	4	8	4
86168	.1	.68	1	1	834	1.4	10	.45	.1	9	21	4.08	.19	28	.78	1383	2	.02	17	1210	40	16	96	1	.08	79.9	93	1	1	3	7	9
86169	.1	.88	1	496	446	1.4	14	.64	.1	10	27	4.64	.21	36	1.02	1489	3	.02	19	1160	36	17	120	1	.14	115.4	77	1	1	5	8	5
86170	.1	.81	1	479	659	1.3	15	.77	.1	10	33	4.53	.18	29	.91	1960	3	.02	22	1060	47	18	142	1	.12	110.5	76	1	1	4	9	8
86171	.5	1.01	1	659	282	1.4	18	1.03	.1	11	28	4.64	.17	38	1.24	1262	3	.02	18	1140	35	21	181	1	.17	125.8	76	1	1	5	8	3
86172	.1	.33	1	93	453	.5	5	1.60	.1	3	44	1.39	.11	10	.33	907	3	.01	10	1370	21	7	237	1	.02	32.0	56	3	1	1	8	2
86173	.1	.60	1	46	489	1.0	7	.82	.1	6	23	2.84	.01	1	.66	790	3	.01	13	1260	28	14	154	1	.06	66.4	72	4	1	3	7	9
86174	.7	1.19	1	1517	151	1.3	20	1.42	.1	11	29	4.83	.01	1	1.48	1035	3	.02	19	1000	38	24	222	1	.23	162.1	64	1	1	6	8	7
86176	.6	.87	1	338	527	1.7	16	1.56	.1	10	26	5.49	.01	1	1.34	920	2	.01	20	1000	35	20	129	1	.17	163.3	74	2	1	5	11	6
86328	.1	.82	1	14	503	1.5	11	.44	.1	8	22	3.91	.01	1	.75	1367	3	.01	17	1050	38	21	87	1	.09	81.7	77	1	1	4	7	46
86329	.1	.84	1	28	435	1.7	10	.60	.1	9	27	4.14	.01	1	.76	1657	4	.01	21	1300	42	21	91	1	.07	76.8	96	1	1	4	7	8
86330	.1	.83	1	10	931	1.5	12	1.17	.1	9	24	4.05	.01	1	.74	1454	4	.01	20	1230	44	23	107	1	.09	78.1	100	3	1	4	8	4
86331	.1	.86	1	10	650	1.5	11	.37	.1	8	23	4.01	.01	1	.79	1067	3	.01	17	1110	40	23	74	1	.08	79.6	91	4	1	4	8	10
86333	.1	.77	1	1	486	1.5	8	.42	.1	9	26	4.07	.01	1	.65	1488	6	.01	19	1190	42	19	75	1	.05	67.3	93	1	1	3	5	6
86334	.1	.81	1	1	552	1.7	7	.65	.1	10	25	3.75	.01	1	.54	1413	11	.01	18	1300	42	20	143	3	.02	58.8	94	1	1	3	4	3
86335	.1	.86	1	1	428	1.8	7	.45	.1	11	28	4.11	.01	1	.55	1822	9	.01	21	1420	45	21	104	3	.02	64.7	102	1	1	3	5	4
86336	.1	.77	1	1	894	1.6	7	.57	.1	9	26	3.89	.01	1	.66	1464	5	.01	20	1210	44	18	127	1	.05	65.8	92	1	1	3	5	5
86337	.1	.81	1	17	846	1.5	9	.61	.1	9	27	3.97	.01	1	.70	1464	5	.01	19	1240	39	18	110	1	.06	71.8	89	1	1	3	5	9
86338	.1	.80	1	18	595	1.6	8	.47	.1	9	27	4.13	.01	1	.68	1793	5	.01	20	1290	42	20	93	1	.06	73.8	96	1	1	3	6	10
86339	.1	.82	1	9	874	1.7	10	.45	.1	10	30	4.71	.01	1	.70	2188	6	.01	22	1280	59	23	113	1	.06	77.5	111	1	1	3	6	7
86340	.1	.80	1	1	902	1.6	10	.41	.1	10	25	4.41	.01	1	.70	2057	5	.01	23	1210	48	21	93	2	.06	83.6	101	1	1	3	7	5
86343	.1	.76	1	4	709	1.8	12	.41	.1	10	24	4.95	.01	1	.73	2199	4	.01	24	1160	48	20	96	1	.08	98.4	91	1	1	4	8	28
86344	.1	.75	1	1	846	1.6	10	.43	.1	9	25	4.40	.01	1	.70	2033	4	.01	21	1190	51	19	100	1	.06	80.8	125	1	1	3	6	2
86345	.1	.72	1	7	947	1.6	10	.41	.1	9	22	4.24	.01	1	.67	1468	4	.01	19	1140	51	17	94	1	.08	80.4	100	1	1	3	6	50
86346	.1	.93	1	1	814	2.0	10	.34	.1	12	32	5.00	.01	1	.80	2585	4	.01	26	1350	64	22	83	1	.04	86.3	120	1	1	4	7	34
86347	.1	.74	1	9	467	1.6	10	.41	.1	10	26	4.44	.01	1	.66	2154	4	.01	23	1180	51	17	91	1	.06	72.9	97	1	1	3	6	13
86452	.1	.46	1	5	693	1.9	6	.29	.1	13	100	4.88	.21	1	.17	2760	1	.01	24	1530	54	11	81	1	.01	44.1	119	1	1	1	1	15
86455	.1	.62	1	1	705	2.1	6	.26	.1	13	97	4.13	.43	1	.18	3286	3	.01	21	1280	131	16	79	1	.01	42.9	265	1	1	2	1	179
86471	.1	.39	1	1	1005	1.7	5	.28	.1	9	138	4.29	.01	1	.16	1784	1	.01	18	1350	55	10	118	1	.01	45.9	113	1	1	2	1	48
86473	.1	.49	1	12	1247	1.8	7	.26	.1	10	270	4.49	.33	1	.16	1827	2	.01	18	1390	62	14	105	2	.01	51.8	144	1	1	2	1	186

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0300-LJ3+4
DATE: 94/10/12
* stream * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86475	.5	.71	1	344	242	1.5	14	1.52	.1	9	29	4.67	.07	40	1.39	909	3	.02	20	980	31	16	88	1	.11	116.9	86	1	1	5	10	20
86500	.3	.70	12	324	240	1.6	13	1.51	.1	9	22	4.65	.07	40	1.38	914	3	.01	19	1000	33	17	88	2	.10	114.5	78	2	1	4	11	59
86501	.1	.69	1	151	211	1.2	11	.48	.1	8	19	3.64	.09	36	1.05	1133	4	.02	15	1070	27	15	68	3	.08	79.0	66	2	1	4	7	20
86503	.1	.67	1	91	382	1.5	11	.52	.1	10	27	4.24	.11	33	.94	2157	4	.02	22	1180	41	15	84	3	.09	86.7	75	1	1	4	10	90
86504	.1	.64	1	143	371	1.3	13	.58	.1	8	22	3.70	.09	31	.96	982	3	.02	17	1150	31	16	108	3	.08	85.5	76	3	1	4	9	50
86505	.1	.59	1	148	283	1.3	9	.63	.1	7	23	3.44	.07	31	.94	873	3	.02	14	1150	28	14	115	3	.06	77.5	72	3	1	4	8	18
86506	.1	.60	1	123	324	1.3	10	.58	.1	8	27	3.81	.06	30	.85	1499	4	.02	17	810	39	15	96	3	.06	78.1	66	1	1	4	8	8
86507	.1	.57	1	187	257	1.3	10	.48	.1	8	29	3.91	.08	30	.81	1449	3	.02	17	1170	30	14	74	3	.07	75.9	72	1	1	4	7	42
86508	.1	.57	1	134	245	1.3	10	.53	.1	8	22	3.94	.08	30	.88	1004	3	.02	18	1030	31	13	79	4	.07	84.6	65	3	1	4	7	28
86509	.1	.56	1	51	270	1.4	11	.75	.1	9	28	4.11	.10	29	.76	1234	3	.02	21	1110	33	15	86	4	.07	75.5	74	1	1	4	8	171
86510	.1	.63	1	151	192	1.3	12	.47	.1	8	19	3.92	.07	33	1.00	985	3	.02	17	1060	27	15	68	4	.09	91.7	62	4	1	4	8	11
86513	.1	.61	1	122	356	1.4	14	.59	.1	9	28	4.76	.11	32	.87	985	3	.02	19	990	30	15	89	3	.11	112.4	69	1	1	4	9	16
86514	.1	.57	1	92	302	1.4	11	.48	.1	9	26	4.27	.10	31	.79	1427	3	.02	18	1050	32	14	74	3	.07	83.9	71	1	1	4	7	34
86515	.2	.58	1	139	303	1.1	10	1.70	.1	7	49	3.20	.11	29	.89	845	3	.02	14	1070	23	13	89	2	.07	68.8	59	4	1	4	9	74
86516	.1	.59	1	66	384	1.2	9	1.43	.1	7	17	3.40	.13	30	.83	1073	4	.02	15	1020	29	15	96	2	.06	64.9	62	2	1	3	7	2
86517	.1	.59	1	73	270	1.2	13	.48	.1	8	22	3.85	.11	29	.79	1367	3	.02	18	1010	34	14	78	4	.09	82.1	69	1	1	4	7	40
86518	.1	.69	1	104	364	1.3	12	1.11	.1	8	20	3.69	.19	32	.87	1061	3	.02	16	1020	28	16	93	3	.08	80.0	67	2	1	4	8	42
86519	.7	.70	1	262	292	1.2	14	.59	.1	9	25	4.25	.10	31	.90	1224	3	.02	18	1020	35	15	86	3	.12	100.7	72	2	1	4	9	21
86520	.1	.64	1	198	420	1.4	13	.59	.1	9	34	4.31	.12	31	.82	1571	4	.02	19	1180	37	14	99	3	.10	91.2	77	1	1	4	8	20
86521	.1	.58	1	71	511	1.4	11	.59	.1	7	29	3.65	.09	30	.82	920	4	.02	18	1210	32	14	102	3	.06	75.5	77	4	1	4	8	45
86522	.1	.56	1	1	464	1.3	9	1.22	.1	8	20	3.37	.13	30	.72	1110	4	.02	15	1030	30	14	87	3	.05	57.7	70	2	1	3	6	18
86523	.1	.61	1	161	329	1.5	11	.53	.1	9	31	4.32	.10	31	.83	1777	3	.02	20	1150	43	14	72	4	.07	80.1	85	1	1	4	7	10
86524	.1	.60	6	200	333	1.4	10	1.18	.1	8	25	3.69	.09	32	.88	1137	4	.02	17	1140	35	15	90	3	.06	67.6	72	4	1	3	8	48
86525	.5	.63	76	268	198	1.5	11	1.48	.1	8	22	4.06	.06	35	1.27	847	4	.01	17	970	30	16	76	3	.07	93.1	77	5	1	4	10	24
86601	1.0	1.12	1	758	121	1.5	19	1.26	.1	11	29	5.00	.09	53	1.65	986	2	.02	19	930	32	19	148	1	.24	158.7	74	1	1	5	10	47
86602	.1	.79	1	144	368	1.3	10	.84	.1	8	24	3.98	.19	34	.94	1195	2	.03	18	1090	36	16	93	1	.11	89.6	77	1	1	4	8	27
86603	.1	.62	1	18	265	1.4	9	.38	.1	9	27	4.10	.10	31	.78	1567	3	.02	18	1060	36	12	60	1	.09	82.6	73	1	1	3	7	88
86604	.1	.76	1	65	382	1.3	9	1.32	.1	8	23	3.73	.20	35	.90	1139	3	.03	17	1080	36	15	80	1	.09	79.3	77	1	1	3	7	34
86605	.1	.83	1	66	426	1.2	9	1.26	.1	9	22	3.87	.22	35	.97	1184	3	.03	17	1080	36	16	85	1	.09	82.1	82	1	1	3	8	52
86606	.1	.69	1	130	168	1.2	10	.50	.1	8	21	3.94	.10	35	.92	1052	2	.02	16	1040	28	13	73	1	.10	88.8	65	1	1	3	6	28
86607	.1	.67	1	395	181	1.3	10	.52	.1	8	22	3.95	.07	34	.96	1172	2	.02	16	1010	31	14	63	1	.09	89.8	66	1	1	3	7	39
86608	.1	.64	1	237	192	1.2	9	.49	.1	8	22	3.76	.07	34	.91	1121	2	.02	18	1090	28	13	63	1	.08	79.6	68	1	1	3	6	35
86609	.1	.59	1	38	319	1.2	7	.47	.1	8	26	3.94	.08	30	.79	1725	3	.02	18	1130	45	14	74	1	.06	72.9	79	1	1	3	6	44
86610	.1	.64	1	72	684	1.5	8	.65	.1	9	55	3.95	.12	29	.76	2743	3	.02	22	1300	48	14	134	1	.05	79.7	93	1	1	3	8	46
86611	.1	.57	1	101	245	1.1	9	.54	.1	7	18	3.59	.09	28	.78	1198	3	.02	16	950	27	11	63	1	.09	83.9	55	1	1	3	7	162
86612	.1	.63	1	90	249	1.2	9	.50	.1	8	21	3.87	.10	29	.83	1210	2	.02	17	1050	33	14	65	1	.09	86.8	64	1	1	3	7	64
86613	.1	.66	1	20	251	1.3	10	.48	.1	9	38	4.31	.12	29	.85	1347	2	.02	18	1100	37	13	64	1	.11	98.7	69	1	1	3	7	105
86614	.1	.68	1	163	517	1.3	10	.60	.1	9	84	4.34	.16	29	.88	1371	3	.02	18	1150	49	13	99	1	.10	103.7	85	1	1	3	9	54
86615	.1	.65	1	68	420	1.3	11	.50	.1	9	90	4.56	.11	28	.86	1794	2	.02	22	1130	42	13	67	1	.10	104.0	88	1	1	3	9	135
86616	.1	.69	1	69	271	1.5	11	.50	.1	9	47	4.49	.13	28	.89	1145	2	.02	18	1110	35	14	73	1	.11	106.0	72	1	1	3	7	77
86617	.3	.68	1	47	193	1.2	11	.45	.1	9	549	4.37	.13	29	.87	1071	1	.02	18	1080	30	13	66	1	.11	102.3	98	1	1	3	7	395
86618	.3	.79	1	106	476	1.3	11	.64	.1	10	34	4.71	.17	30	1.04	1385	3	.02	20	1220	38	17	112	1	.10	113.0	74	1	1	4	9	27
86619	.1	.72	1	96	228	1.4	12	.50	.1	10	27	4.91	.13	33	.94	1505	2	.02	21	1080	40	15	72	1	.13	118.4	81	1	1	4	8	30
86620	.5	.72	1	45	195	1.2	11	.56	.1	9	34	3.92	.11	29	.88	665	3	.02	17	1200	30	14	86	1	.12	90.0	67	1	1	3	7	18
86621	.1	.60	1	90	221	1.2	10	.49	.1	8	20	3.75	.08	28	.85	999	2	.02	16	970	31	13	56	1	.09	82.9	61	1	1	3	6	44
86622	.1	.58	1	86	157	1.2	10	.50	.1	8	23	4.27	.07	29	.87	1026	1	.02	17	1010	28	11	50	1	.10	103.0	58	1	1	3	7	62
86623	.1	.61	1	5	166	1.2	9	.45	.1	8	23	3.84	.07	28	.82	952	2	.02	16	940	33	12	56	1	.09	87.3	62	1	1	3	6	21
86624	.2	.75	1	249	181	1.3	12	.67	.1	9	30	4.27	.08	31	1.01	1157	3	.02	16	1050	35	15	77	1	.13	112.0	64	1	1	4	7	42

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0300-LJ5
DATE: 94/10/12
* stream * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86625	.5	.78	1	267	475	1.0	17	1.26	.1	10	28	5.19	.15	37	1.28	873	3	.02	20	950	37	20	116	3	.15	146.8	75	2	1	5	10	26
86626	.1	.70	1	260	347	1.2	14	.51	.1	10	34	4.47	.20	28	.84	1477	3	.02	20	1090	44	19	105	5	.09	92.8	75	1	1	4	7	15
86627	.1	.70	1	158	427	1.0	15	.62	.1	9	31	4.27	.23	29	.81	1434	4	.02	17	1220	45	20	112	5	.10	92.8	79	1	1	4	7	11
86628	.1	.82	1	595	260	1.0	15	.65	.1	9	27	4.14	.18	31	.97	1050	3	.02	18	1050	37	21	135	4	.13	103.2	69	2	1	5	7	8
86629	.6	1.05	1	777	129	.8	21	1.10	.1	10	26	4.48	.17	36	1.20	899	4	.02	17	1000	34	25	172	3	.19	139.1	65	2	1	6	8	7
86632	.1	.66	16	136	459	1.1	14	1.06	.1	9	23	4.52	.22	25	.80	1084	3	.02	19	1030	40	18	125	4	.09	100.0	76	1	1	4	8	8
86633	.1	.80	1	446	246	1.1	14	.62	.1	9	24	4.08	.23	30	.89	1138	3	.02	18	1060	37	20	120	4	.11	95.2	71	1	1	4	7	7
86634	.1	.73	1	70	506	1.1	11	1.42	.1	8	25	3.60	.30	25	.73	1066	4	.02	15	1020	38	21	148	5	.07	71.8	66	4	1	4	8	15
86635	.1	.79	1	277	296	1.1	13	.53	.1	9	28	4.17	.25	29	.82	1301	3	.02	17	1080	37	21	118	4	.11	91.1	75	1	1	4	6	10
86636	.1	.72	1	49	671	1.0	12	.44	.1	8	21	4.10	.27	29	.69	1214	4	.02	18	1090	36	18	95	5	.09	87.7	80	1	1	4	7	5
86637	.1	.94	1	741	342	1.1	16	.93	.1	10	26	4.52	.22	36	1.11	1327	4	.02	19	980	45	22	159	3	.15	116.0	76	1	1	5	8	8
86638	.1	.81	1	666	155	.9	16	.62	.1	9	21	3.92	.15	33	.98	1297	4	.02	17	910	36	18	138	4	.14	103.2	67	1	1	4	6	6
86639	.1	.55	1	58	197	.9	9	1.03	.1	8	25	3.41	.16	26	.67	1106	3	.01	14	1060	33	14	94	3	.07	60.4	67	1	1	3	5	10

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: D. Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0304-LJ1
DATE: 94/10/19
* stream * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86538	.1	.18	21	1	301	1.5	4	.17	.1	9	52	4.64	.18	6	.11	688	1	.01	16	1270	29	4	74	3	.01	32.1	84	1	1	1	1	21
86549	.1	.31	34	1	302	1.7	6	.29	.1	10	55	4.80	.20	11	.27	1273	2	.01	19	1400	29	8	130	4	.01	49.1	84	1	1	2	2	22
86555	.1	.36	1	1	362	2.0	7	.30	.1	14	65	5.85	.27	11	.26	2324	3	.01	25	1420	42	8	166	4	.01	54.9	99	1	1	2	1	62

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0305-LJ1+2
DATE: 94/10/18
* stream * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86177	.1	.62	1	84	391	1.2	9	.61	.1	8	24	3.69	.18	32	.77	1320	3	.01	17	1070	32	14	86	1	.08	70.8	77	1	1	3	7	5
86178	.1	.57	1	48	301	1.2	9	.47	.1	8	20	3.52	.16	27	.69	1247	3	.01	17	1010	26	12	67	1	.07	64.1	77	1	1	3	6	14
86179	.1	.66	1	41	458	1.1	9	1.47	.1	7	19	3.49	.15	34	.82	1000	3	.01	16	1000	28	16	116	1	.06	64.8	69	1	1	3	8	8
86180	.1	.63	1	2	788	1.2	10	1.43	.1	8	19	4.08	.16	32	.82	863	3	.01	18	950	28	15	106	1	.10	99.6	63	1	1	4	11	4
86181	.1	.66	1	4	358	1.2	8	.50	.1	8	18	3.77	.17	35	.74	1111	2	.01	18	860	34	16	66	2	.08	73.6	71	1	1	4	8	3
86182	.1	.69	1	9	433	1.3	11	.40	.1	8	18	3.86	.21	36	.76	1192	3	.01	18	1070	31	16	85	2	.09	77.6	69	1	1	4	8	6
86183	.1	.73	16	317	495	1.3	15	1.47	.1	10	25	5.39	.11	35	1.30	900	3	.01	21	990	31	16	106	1	.15	153.3	71	1	1	5	12	5
86186	.1	.46	28	85	410	1.4	8	1.48	.1	8	28	4.11	.15	21	.75	922	4	.01	18	1060	32	10	138	1	.06	76.6	54	1	1	3	8	17
86187	.1	.47	5	72	369	1.2	8	1.63	.1	7	22	3.59	.13	23	.74	866	2	.01	17	960	26	11	137	1	.06	68.6	55	1	1	3	8	3
86191	.1	.59	1	1	488	1.4	6	.83	.1	9	21	3.62	.20	26	.54	1195	8	.01	18	1160	37	14	140	4	.02	54.8	92	1	1	3	6	1
86192	.1	.63	1	38	544	1.3	12	.97	.1	8	21	4.04	.16	31	.81	1123	4	.01	19	980	30	15	127	2	.09	88.3	71	1	1	4	9	13
86193	.1	.50	1	75	404	.9	5	2.84	.1	5	23	2.43	.13	27	.63	682	3	.01	11	810	24	12	147	1	.04	45.8	57	1	1	3	8	24
86298	.1	.72	1	156	513	1.3	11	1.22	.1	10	33	4.93	.16	33	1.04	1100	3	.01	20	1060	35	15	100	1	.10	108.0	76	1	1	4	10	130
86300	.1	.70	1	56	478	1.4	9	1.07	.1	9	26	4.49	.14	32	1.04	906	3	.01	18	1070	28	16	89	2	.08	103.6	69	1	1	4	11	2
86302	.1	.73	1	135	532	1.4	10	.61	.1	9	47	4.46	.20	32	1.02	1144	3	.01	19	1190	34	16	106	1	.09	92.4	81	1	1	4	9	24
86303	.1	.78	1	429	768	1.5	16	.77	.1	11	43	6.09	.16	42	1.21	1373	2	.01	25	1150	31	15	128	1	.18	187.8	76	1	1	6	13	30
86304	.1	.72	1	165	512	1.2	10	.72	.1	9	55	4.56	.14	36	1.16	873	3	.01	17	1200	26	14	122	1	.12	125.1	69	1	1	5	10	3
86305	.1	.73	14	256	518	1.5	16	1.37	.1	10	27	6.08	.12	38	1.30	922	2	.01	23	960	41	17	99	1	.17	181.8	74	1	1	5	12	333
86535	.1	.40	1	1	382	1.6	5	.31	.1	9	42	4.53	.28	13	.36	1109	2	.01	19	1330	27	9	99	3	.01	59.2	76	1	1	2	3	23
86550	.1	.76	1	342	514	1.4	15	1.47	.1	10	27	5.74	.12	37	1.32	907	3	.01	22	1000	44	16	109	1	.17	166.9	70	1	1	5	13	6
86560	.1	.27	387	1	111	2.2	8	2.34	.1	20	88	9.04	.12	10	1.33	1158	1	.01	33	1180	27	6	180	1	.01	73.4	60	1	1	2	9	41
86561	.1	1.01	1	1	102	1.4	12	.14	.1	6	18	3.80	.16	14	.43	817	4	.04	19	1540	59	23	59	2	.13	60.0	104	3	1	4	11	5
86566	.1	1.16	1	1	157	1.6	13	.21	.1	9	27	4.06	.22	22	.66	2127	5	.01	24	1430	67	25	80	1	.12	80.0	139	1	1	5	11	4
86567	.1	1.09	1	1	148	1.5	14	.22	.1	9	25	4.17	.20	22	.67	1939	4	.01	24	1320	61	23	78	1	.13	84.5	143	1	1	5	10	8
86578	.1	.84	1	1	349	1.4	12	.30	.1	10	40	4.23	.29	20	.75	1896	3	.01	23	960	68	19	67	1	.10	69.6	129	1	1	3	8	9
86582	.1	.81	1	1	171	1.3	11	.21	.1	8	27	3.86	.24	18	.65	1431	3	.01	19	1060	51	17	64	1	.12	67.8	119	1	1	3	6	5
86583	.1	.46	203	1	165	2.1	9	1.34	.1	19	105	8.69	.18	18	1.05	1025	1	.01	34	1240	30	9	99	1	.02	87.4	62	1	1	3	9	53
86586	.1	.41	269	1	163	2.2	8	1.51	.1	18	102	8.35	.14	18	1.22	992	1	.01	30	1310	24	8	108	1	.01	67.4	66	1	1	2	8	34
86588	.1	.43	247	1	140	2.6	8	1.46	.1	20	110	9.08	.18	17	1.14	1176	1	.01	35	1370	25	8	103	1	.01	71.7	63	1	1	2	7	67
86592	.1	.54	1	1	726	2.1	6	.39	.1	14	71	7.06	.31	16	.45	1371	1	.01	24	1480	37	10	88	1	.01	70.1	90	1	1	2	3	36
86594	.1	.50	1	1	442	1.7	7	.32	.1	12	43	5.55	.22	15	.46	1125	1	.01	23	1010	36	10	69	1	.03	74.7	77	1	1	2	6	306
86641	.1	.67	1	47	517	1.4	9	1.54	.1	8	22	3.74	.24	28	.75	1127	3	.01	16	1060	35	15	132	1	.08	74.7	79	1	1	3	8	8
86642	.1	.85	1	348	348	1.6	10	.59	.1	10	27	4.41	.23	38	.88	1643	7	.01	20	1210	35	19	113	3	.08	95.4	92	1	1	4	7	1
86644	.1	.66	1	48	402	1.2	10	1.56	.1	8	19	3.47	.24	26	.74	1091	3	.01	16	1010	27	15	109	1	.07	69.8	69	1	1	3	8	6
86646	.6	1.04	1	1957	208	1.3	17	1.44	.1	11	24	4.85	.13	44	1.47	1091	3	.01	20	960	31	21	199	1	.21	153.6	77	1	1	5	10	5
86647	.1	.74	1	43	369	1.6	8	.39	.1	10	25	4.23	.29	31	.64	1718	7	.01	21	1250	39	17	81	3	.05	72.8	96	1	1	3	6	8
86648	.1	.70	1	1	519	1.7	7	.92	.1	9	24	3.83	.29	28	.58	1357	9	.01	17	1240	34	16	146	3	.03	62.3	97	1	1	2	7	1
86649	.1	.78	1	9	491	1.7	8	.44	.1	10	27	4.15	.34	31	.60	1785	8	.01	21	1230	42	17	84	2	.04	72.5	103	1	1	3	6	2
86650	.4	.84	31	378	566	1.4	17	1.69	.1	11	29	6.27	.15	38	1.44	981	2	.01	23	1070	31	17	121	1	.19	183.3	78	1	1	6	14	9
86709	.1	.68	1	134	460	1.4	10	.71	.1	8	775	4.74	.25	24	.75	1594	3	.01	21	1170	56	16	114	1	.05	72.5	113	1	1	3	7	94

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0301-LJ1
DATE: 94/10/07
* stream * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86498	.1	.44	1	7	1337	1.7	6	.25	.1	11	38	4.43	.42	6	.17	1531	2	.01	20	1280	52	12	146	5	.01	40.5	114	1	1	2	1	3

COMP: GEOFINE EXPLORATION CONSULTANTS
PROJ: 6500
ATTN: David Molloy

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
TEL:(604)980-5814 FAX:(604)980-9621

FILE NO: 4S-0305-SJ1
DATE: 94/10/18
• soil * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI %	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	Au-Fire PPB
86544	.1	.72	1	1	130	1.8	6	.04	.1	11	68	5.45	.25	25	.64	1372	4	.01	22	1480	41	14	39	1	.01	62.0	88	1	1	3	6	25
86545	.1	.70	1	1	252	2.0	6	.05	.1	10	77	7.20	.34	16	.48	1268	1	.01	25	1920	48	12	50	1	.01	67.0	94	1	1	2	4	21
86564	.1	1.06	1	1	108	1.2	14	.12	.1	6	24	4.52	.24	16	.46	427	5	.03	20	1530	49	22	63	1	.15	65.7	90	4	1	4	12	2
86568	.1	1.05	1	1	152	1.2	13	.25	.1	8	23	3.69	.27	20	.62	2147	4	.01	20	1200	64	24	81	1	.13	79.6	141	1	1	4	8	5
86572	.1	1.00	1	1	206	1.6	13	.24	.1	9	27	4.19	.35	22	.74	1963	4	.01	23	1370	78	23	83	1	.14	80.1	193	1	1	4	9	3
86574	.1	.87	1	1	113	1.4	14	.16	.1	8	32	6.13	.25	20	.63	606	3	.01	23	1410	46	18	70	1	.15	76.5	94	1	1	4	7	3
86580	.1	1.20	1	1	134	1.9	8	.06	.1	16	60	7.87	.19	23	.75	2285	3	.01	31	2500	57	24	72	1	.02	103.2	92	1	1	4	8	17

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FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0222-RA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT
2. FAX TO GEOFINE ONTARIO

We hereby certify the following Assay of 24 ROCK samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86001	2.2
86002	3.4
86003	3.0
86004	1.9
86006	1.2
86007	3.2
86008	2.4
86009	2.4
86010	1.8
86011	.2
86012	3.0
86013	2.2
86014	2.2
86016	1.6
86017	1.8
86018	3.0
86019	1.8
86020	1.6
86021	3.2
86023	3.0
86024	1.6
86027	2.0
86028	1.6
86029	2.6

Certified by _____

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Assay Certificate

4S-0222-RA2

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
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2. FAX TO GEOFINE ONTARIO

We hereby certify the following Assay of 24 ROCK samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86030	1.4
86031	2.8
86032	2.0
86033	2.4
86034	3.4
86201	1.4
86203	2.8
86205	3.6
86206	3.4
86209	1.2
86211	3.0
86212	2.4
86213	3.8
86214	1.0
86215	.6
86216	4.0
86217	1.0
86218	3.6
86220	2.0
86221	1.6
86223	2.2
86224	6.4
86226	1.8
86227	4.2

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0222-RA3

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT
2. FAX TO GEOFINE ONTARIO

We hereby certify the following Assay of 24 ROCK samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86228	1.0
86229	2.0
86230	4.4
86232	3.0
86233	3.2
86234	1.4
86235	4.2
86237	1.8
86238	1.8
86239	3.2
86240	3.0
86241	1.8
86242	2.6
86245	1.6
86246	1.8
86247	1.4
86248	5.2
86249	3.0
86250	1.0
86251	4.4
86252	1.0
86253	1.6
86254	1.6
86255	1.8

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3176 TATLOW ROAD
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FAX (604) 847-3005

Assay Certificate

4S-0222-RA4

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
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2. FAX TO GEOFINE ONTARIO

We hereby certify the following Assay of 24 ROCK samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86257	1.8
86258	1.8
86260	2.8
86261	3.6
86262	2.2
86263	3.2
86264	1.8
86265	2.2
86267	3.0
86268	1.6
86269	2.8
86270	1.4
86272	2.0
86274	1.4
86275	1.0
86277	1.4
86279	2.2
86280	1.4
86281	3.4
86282	1.2
86283	2.6
86284	3.8
86285	3.2
86286	1.8

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SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0222-RA5

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
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We hereby certify the following Assay of 8 ROCK samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86287	1.6
86288	1.2
86289	.6
86290	1.4
86291	2.0
86292	1.4
86293	3.8
86294	2.2

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FAX (604) 847-3005

Assay Certificate

4S-0222-LA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
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2. FAX TO GEOFINE ONTARIO

We hereby certify the following Assay of 24 STREAM SEDIMENT samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86005	3.6
86015	2.6
86022	2.6
86026	2.6
86035	1.8
86036	2.6
86037	1.8
86038	1.8
86039	2.2
86040	2.2
86041	1.6
86042	1.8
86202	3.0
86204	1.6
86207	1.2
86208	.8
86210	1.4
86222	2.4
86231	1.0
86236	1.6
86256	2.0
86266	1.6
86273	.8
86276	2.2

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Geochemical Analysis Certificate

4S-0222-SG1

Company: **GEOFINE EXPLORATION CONSULTANTS** Date: AUG-24-94
Project: 6500
Attn: DAVID MOLLOY

Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT
2. FAX TO GEOFINE ONTARIO

We hereby certify the following Geochemical Analysis of 24 SOILS samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT Kg
TD1-1	.106
TD1-2	.133
TD1-3	.063
TD1-4	.110
TD1-5	.103
TD1-6	.101
TD1-7	.116
TD1-8	.160
TD1-9	.111
TD1-10	.043
TD1-11	.118
TD1-12	.098
TD1-13	.118
TD1-14	.120
TD1-15	.157
TD1-16	.116
TD1-17	.297
TD1-18	.129
TD1-19	.355
86219	1.4
86243	1.8
86244	1.0
86225	1.4
86259	2.0

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0222-SA2

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-24-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT
2. FAX TO GEOFINE ONTARIO

We hereby certify the following Assay of 2 SOIL samples submitted AUG-24-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86271	1.2
86278	1.4

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TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0240-RA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-31-94
Copy 1. GEOFINE EXPLORATION UNIONVILLE ONT

We hereby certify the following Assay of 24 ROCK samples submitted AUG-30-94 by DAVE KENEDY.

Sample Number	WEIGHT KG
86043	3.6
86044	3.0
86045	2.0
86046	3.2
86047	3.8
86048	3.0
86049	2.0
86050	.2
86051	1.4
86052	1.4
86653	2.2
86054	3.2
86055	3.4
86056	2.6
86057	2.8
86058	2.6
86059	1.0
86060	2.8
86061	2.8
86062	2.8
86063	2.6
86064	4.8
86065	2.0
86066	3.8

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Assay Certificate

4S-0240-RA2

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-31-94
Copy 1. GEOFINE EXPLORATION UNIONVILLE ONT

We hereby certify the following Assay of 24 ROCK samples submitted AUG-30-94 by DAVE KENEDY.

Sample Number	WEIGHT KG
86067	3.2
86068	2.8
86069	2.6
86070	3.6
86071	3.4
86072	1.4
86073	2.6
86074	1.4
86075	.4
86076	2.6
86077	2.6
86078	3.2
86079	1.4
86080	3.6
86081	3.6
86082	2.2
86083	3.0
86084	2.2
86085	2.2
86086	1.2
86087	3.0
86088	3.2
86089	2.6
86090	2.6

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Assay Certificate

4S-0240-RA3

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: AUG-31-94
Copy 1. GEOFINE EXPLORATION UNIONVILLE ONT

We hereby certify the following Assay of 2 ROCK samples submitted AUG-30-94 by DAVE KENEDY.

Sample Number	WEIGHT KG
86091	3.2
86092	2.2

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Assay Certificate

4S-0297-XA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 ROCK samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86142	1.8
86145	3.4
86146	7.0
86325	3.8
86326	.6
86327	3.4
86332	.4
86341	3.0
86342	.4
86348	2.6
86349	3.4
86428	2.6
86429	2.8
86430	5.8
86431	5.8
86432	4.4
86433	5.8
86434	5.4
86435	4.8
86436	5.4
86437	6.6
86438	6.2
86439	6.4
86440	.2

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4S-0297-RA2

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 ROCK samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86441	4.4
86444	7.8
86445	4.0
86446	5.6
86447	1.0
86448	7.4
86449	7.4
86450	.2
86453	5.0
86454	4.4
86456	3.4
86457	3.6
86458	3.6
86459	3.6
86460	4.6
86463	2.2
86465	3.4
86467	2.2
86472	5.2
86474	3.6
86475A	.2
86476	5.6
86477	6.2
86478	6.0

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4S-0297-RA3

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 ROCK samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86479	6.4
86480	5.0
86481	6.4
86482	3.8
86483	4.6
86484	3.0
86486	2.2
86488	4.6
86490	2.8
86492	4.4
86493	2.8
86494	4.4
86495	6.0
86496	3.4
86497	3.0
86499	4.6
86502	2.4
86511	5.0
86512	2.0
86526	.6
86527	3.6
86528	2.8
86529	4.8
86533	2.0

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4S-0297-RA4

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 2 ROCK samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86630	4.6
86631	3.6

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4S-0300-LA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 STREAM samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86143	1.8
86144	2.2
86151	2.0
86152	1.6
86153	1.6
86154	1.8
86155	1.4
86156	1.2
86157	1.4
86158	1.6
86159	1.4
86160	1.8
86161	2.0
86162	2.0
86163	2.0
86164	1.8
86165	1.4
86166	1.4
86167	1.6
86168	2.4
86169	2.0
86170	2.0
86171	3.0
86172	1.2

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Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 STREAM samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86173	2.6
86174	2.6
86176	1.0
86328	2.0
86329	2.8
86330	1.6
86331	1.8
86333	2.0
86334	1.6
86335	1.6
86336	1.6
86337	.6
86338	1.8
86339	2.2
86340	1.6
86343	1.6
86344	1.2
86345	2.4
86346	1.4
86347	2.0
86452	2.4
86455	3.6
86471	2.0
86473	1.6

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4S-0300-LA3

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 STREAM samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86475	.4
86500	.4
86501	.8
86503	1.8
86504	1.8
86505	2.8
86506	1.6
86507	1.8
86508	3.0
86509	3.0
86510	1.6
86513	2.6
86514	2.0
86515	1.0
86516	2.2
86517	1.4
86518	2.2
86519	2.0
86520	2.2
86521	.6
86522	2.6
86523	2.8
86524	2.6
86525	1.2

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4S-0300-LA4

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 STREAM samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86601	2.4
86602	2.0
86603	3.2
86604	2.0
86605	2.0
86606	2.8
86607	2.8
86608	2.6
86609	2.6
86610	2.6
86611	2.6
86612	2.6
86613	2.4
86614	2.6
86615	1.8
86616	2.6
86617	2.6
86618	2.4
86619	2.6
86620	2.8
86621	2.4
86622	2.4
86623	1.6
86624	2.4

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4S-0300-LA5

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 STREAM samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86625	1.2
86626	2.6
86627	2.6
86628	2.6
86629	2.6
86632	3.4
86633	2.6
86634	2.6
86635	2.8
86636	2.6
86637	2.8
86638	2.6
86639	2.8

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Assay Certificate

4S-0300-SA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 16 SOIL samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86442	5.0
86443	3.6
86451	1.6
86461	1.6
86462	3.6
86464	3.2
86466	2.0
86468	2.2
86469	2.6
86470	2.8
86485	1.8
86487	2.8
86489	4.0
86491	2.8
86531	2.2
86532	1.6

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Assay Certificate

4S-0301-LA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-04-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 1 STREAM samples submitted OCT-04-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86498	.8

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Assay Certificate

4S-0304-RA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 13 ROCKS samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86536	5.0
86537	3.8
86539	3.0
86546	2.8
86548	2.8
86551	1.6
86552	2.8
86553	3.6
86704	4.4
86705	3.4
86710	4.8
86711	3.2
86720	4.2

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Assay Certificate

4S-0304-LA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 2 STREAM samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86538	W 2.0
86549	W 1.2
86555	W .8

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Assay Certificate

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Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 ROCK samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86147	5.2
86148	6.0
86149	7.0
86184	1.4
86185	2.6
86188	3.4
86189	3.6
86190	6.8
86194	2.6
86195	3.6
86196	3.6
86197	9.0
86198	3.8
86199	3.8
86200	1.0
86296	4.4
86297	7.4
86299	7.4
86306	3.6
86307	4.0
86308	2.6
86309	2.8
86310	3.8
86311	3.0

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4S-0305-RA2

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 ROCK samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86312	2.0
86313	4.0
86314	4.2
86315	3.6
86316	4.2
86317	3.4
86318	2.6
86319	6.0
86320	4.4
86321	4.8
86322	3.4
86323	3.0
86534	7.2
86540	3.6
86541	2.8
86542	W 2.6
86543	4.0
86547	W 2.8
86554	3.8
86556	W 1.6
86557	2.2
86558	W 2.0
86559	4.4
86562	3.0

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SMITHERS LAB.:
3176 TATLOW ROAD
SMITHERS, B.C. CANADA V0J 2N0
TELEPHONE (604) 847-3004
FAX (604) 847-3005

Assay Certificate

4S-0305-RA3

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 ROCK samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86563	4.8
86565	2.8
86569	2.0
86570	3.6
86571	3.6
86573	2.4
86575	1.0
86576	W 3.0
86577	W 2.0
86579	2.0
86581	4.2
86584	2.0
86585	2.8
86587	3.4
86589	W 1.6
86590	W 1.6
86591	1.6
86593	1.4
86595	W 1.6
86596	.8
86643	3.8
86645	4.4
86701	3.2
86702	3.2

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Assay Certificate

4S-0305-RA4

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
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We hereby certify the following Assay of 8 ROCK samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86703	2.6
86706	3.4
86707	2.8
86708	5.0
86712	.8
86718	3.0
86719	2.6
86721	2.6

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4S-0305-LA1

Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 24 STREAM samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86177	1.6
86178	1.6
86179	2.4
86180	2.4
86181	1.4
86182	2.2
86183	2.2
86186	3.0
86187	2.8
86191	3.0
86192	3.4
86193	2.2
86298	2.4
86300	4.0
86302	2.0
86303	2.2
86304	1.2
86305	2.0
86535	2.0
86550	1.0
86560	2.8
86561	1.2
86566	2.2
86567	3.0

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Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
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We hereby certify the following Assay of 16 STREAM samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86578	2.0
86582	2.0
86583	2.2
86586	1.8
86588	2.0
86592	2.0
86594	1.6
86641	1.8
86642	1.8
86644	2.4
86646	2.4
86647	2.2
86648	2.4
86649	1.4
86650	1.4
86709	1.6

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Company: **GEOFINE EXPLORATION CONSULTANTS**
Project: 6500
Attn: DAVID MOLLOY

Date: OCT-06-94
Copy 1. GEOFINE EXPLORATION CONSULTANTS ONT

We hereby certify the following Assay of 7 SOIL samples submitted OCT-06-94 by JANINE CALDER.

Sample Number	WEIGHT KG
86544	2.4
86545	2.0
86564	2.8
86568	2.8
86572	3.0
86574	3.6
86580	3.6

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